

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2333 SCOMM 96: HOUSE SPEC. COMM. ON OIL & GAS, 1995-1996

formation of the Milne Point Unit. The settlement agreement removed the surcharge, and returned OXY's Milne Point royalties to the 12.5% level that was originally agreed to at the time the leases were bid upon. Section 5.3 of that settlement agreement, which is enclosed, provides:

Notwithstanding paragraph 18(h)(8) of the MPU Agreement and any otherwise applicable law, OXY cannot apply for any reduced royalty: (1) for any of the [eight] leases identified in Section 5.1 of this Agreement, during the remaining life of the MPU; or (2) for any other liquid hydrocarbon production from the MPU, for five years from the effective date of this agreement.

OXY and DNR agreed to this clause because the parties had just completed a contentious, multi-year royalty reduction application process which neither party was interested in repeating.

We have spoken with the administration as early as May, 1995, and as recently as last week, about the relationship of this clause to HB 325. Our position has been that: (1) nothing in the settlement agreed purports to contract away the legislature's power to fashion royalty oil policy; and (2) OXY is free to participate in that debate. To this point, the administration has concurred in that assessment.

The settlement agreement and HB 325 address different issues, since the latter does not involve application for discretionary relief. What the settlement agreement does restrict is OXY's ability to employ the special royalty relief provision of the Milne Point Unit, and perhaps OXY's ability to apply for discretionary relief under HB 207.^{1/} The wording of Section 5.3 is quite narrow in that respect. It says only that OXY "cannot apply," and is thus self-executing. If OXY were to submit an application for discretionary relief, and were DNR to consider that application within the scope of the settlement agreement, DNR would simply deny it on that basis.

In our meetings with legislators, and in testimony, we have made our best effort to apprise legislators of the settlement agreement--hastening to add, however, that we do not believe that the legislature should make heavy oil policy based on OXY's situation. After all, OXY owns only 9% of the Milne Point Unit, and the 91% owner--BP--is unaffected

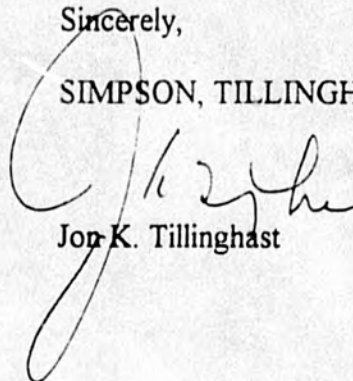
^{1/} That issue is less than certain, since the enactment of HB 207 post-dated the settlement agreement, and the sweeping changes made by that law could not have been anticipated by the parties at the time of the settlement agreement itself. OXY has not taken a position on the applicability of the settlement agreement to HB 207 (and, for argument's sake, has assumed that it is applicable), because the issue is immaterial to the point that OXY has tried to make in legislative debate on this matter: that is, that HB 207, even if it were available, is not the proper vehicle for stimulating full development of the North Slope's heavy oil reserves.

by the settlement agreement. For that reason, we have focused on the broader, policy reasons why HB 207 can't adequately serve as an incentive for new heavy oil development. And, we cannot stress too strongly that our belief in the superiority of a direct, simple legislative incentive, rather than the more uncertain and costly route of discretionary relief, has motivated OXY's participation in this debate.

If you have any further questions about this matter, please don't hesitate to ask.

Sincerely,

SIMPSON, TILLINGHAST, SORENSEN & LORENSEN

A handwritten signature in dark ink, appearing to read "Jon K. Tillinghast", is written over the printed name. The signature is fluid and cursive, with a large initial "J" and "K".

Jon K. Tillinghast

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SETTLEMENT AGREEMENT AND MUTUAL RELEASE

This SETTLEMENT AGREEMENT and MUTUAL RELEASE (collectively "Agreement") is effective as of December 30, 1993 , by and among Conoco, Inc., ("Conoco"), OXY USA Inc. ("OXY"), and the State of Alaska ("State").

RECITALS

This Agreement is made with reference to the following facts:

Royalty Reduction Facts

1. On February 28, 1990 and June 11, 1990, Conoco and OXY, respectively, applied to the State to reduce the royalty rate on certain State leases within the Milne Point Unit ("MPU"). The Commissioner ("Commissioner") of the Department of Natural Resources ("DNR") denied those royalty reduction applications on April 17, 1991.

2. On May 22, 1991, Conoco and OXY appealed the Commissioner's denial of the royalty reduction applications to the superior court in Conoco Inc. v. State of Alaska, 1-JU-797 Civ., and OXY USA Inc. v. State of Alaska, 1-JU-798 Civ. (collectively "Royalty Reduction Administrative Appeal"). Conoco and OXY claim in the Royalty Reduction Administrative Appeal that they are contractually entitled to pay a five percent royalty on all Kuparuk River formation oil production from certain MPU leases. The State claims that Conoco and OXY are contractually required to pay a twenty percent royalty on Kuparuk River formation production from the MPU leases bearing a twenty percent royalty rate and twelve and one-half percent royalty on production from the remaining leases within the MPU, and that Conoco and OXY are not entitled to a royalty reduction either under applicable statutes and regulations, or the MPU Agreement. The Royalty Reduction Administrative Appeal remains pending before the superior court.

3. On May 22, 1991, Conoco and OXY sued the State in Conoco Inc. and OXY USA, Inc. v. State of Alaska, 1-JU-796 Civ. ("the Contract Action"). In the Contract Action, Conoco and OXY claim damages of not less than \$16 million for alleged breach of the royalty reduction terms of the MPU

1 agree to amend the MPU Agreement to provide for 90 days' notice. Nothing in this Section obligates OXY
2 to obtain the agreement of other MPU lessees to amend the MPU Agreement.

3 5.0 FUTURE ROYALTY REDUCTION

4 5.1 Methodology

5 For production after March 31, 1994, the royalty rate specified in the MPU Agreement and
6 ADLs 47432, 47433, 47434, 47437, 47438, 47439, 315846, and 319717 (collectively 20% Leases) is
7 expressly amended for OXY only. The royalty rate for OXY's interest in the 20% Leases is reduced from
8 twenty percent to twelve and a half percent. The royalty rate for all other OXY leases and other lessees in
9 the MPU shall remain unchanged by this Agreement, but may be changed in the future as provided for in
10 applicable statutes, regulations, and agreements. The amended future royalty rate and limitations set forth
11 in Sections 5.1-5.3 of this Agreement shall not apply to Conoco or its assignees including BP and to OXY's
12 assignees.

13 5.2 Assignment

14 The right to pay royalty based upon the methodology set out in Section 5.1 of this
15 Agreement cannot be sold, assigned, cross-assigned, exchanged, or in any way transferred (collectively
16 "Transfers"). If OXY Transfers in any manner any portion of its respective interests in the 20% Leases,
17 the Transferee will have the obligation to pay royalty on the interest Transferred at the rate of twenty percent
18 of the Royalty Value of gross production, as value is defined in Section 4.1.

19 5.3 Limits on Future Royalty Reduction

20 Notwithstanding paragraph 18(h)(8) of the MPU Agreement and any otherwise applicable
21 law, OXY cannot apply for any reduced royalty: (1) for any of the leases identified in Section 5.1 of this
22 Agreement, during the remaining life of the MPU; or (2) for any other liquid hydrocarbon production from
23 the MPU, for five years from the effective date of this Agreement.

24 6.0 FUTURE DISCOVERY ROYALTY

ATTORNEYS AT LAW
SIMPSON, TILLINGHAST, SORENSEN & LORENSEN
A PROFESSIONAL CORPORATION

LESLIE LONGENBAUGH
RONALD W. LORENSEN
L. MERRILL LOWDEN
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STEPHEN F. SORENSEN
JON K. TILLINGHAST

ONE SEALASKA PLAZA, SUITE 300
JUNEAU, ALASKA 99801

PHONE (907) 586-1400
FAX (907) 586-3065

October 23, 1995

Representative Joe Green
716 W. Fourth Ave., Suite 350
Anchorage, Alaska 99501

Re: Proposed Amendments to HB 325
Our File No.: 840.1

Dear Representative Green:

As you know, we represent OXY USA Inc. and BP Exploration (Alaska) Inc. with respect to proposed heavy oil incentives legislation. In anticipation of the October 24 workshop on HB 325, enclosed are OXY and BP's proposed amendments to that bill.

Before briefly explaining the rationale for the amendments, let me point out two matters that are not included within our proposal:

(1) There may be some interest in conforming the language of HB 325 to CSSB 114, the Senate's current heavy oil bill. You should know that the heavy oil language in CSSB 114 was written to parallel language in the original SB 114 dealing primarily with declining Cook Inlet production. This was a necessary but uncomfortable adaptation, resulting in somewhat cumbersome heavy oil language that we believe has been successfully streamlined in HB 325. Moreover, CSSB 114:

(a) requires lessees to obtain a heavy oil certificate from the state. The intent of HB 325 is to make the legislation self-executing, without creating an application process. HB 325 accomplishes this; CSSB 114 does not; and

(b) CSSB 114 places royalty responsibilities with the Alaska Oil and Gas Conservation Commission. Whatever the merits may be of changing the relationship between AOGCC and DNR, this could raise an institutional controversy that would

considerably complicate the legislation. Since HB 325 is self-executing, that is a controversy that need not be raised in the context of this legislation; and

2. The proposed amendments continue to focus solely on encouraging ANS heavy oil development. From the legislature's perspective, HB 325 has the advantage of allowing the legislature itself to set state royalty policy, rather than delegating that task to the executive branch under discretionary standards. As other state legislatures have found, direct royalty policy legislation is feasible only if it focuses on a single, specific problem. If additional development incentives are added to the legislation, the debate complicates itself geometrically, and delegation of discretionary authority to make the final decisions becomes more attractive. This is not to say that HB 325 should not serve as a model for other legislative initiatives--indeed, we hope it does. But especially because HB 325 represents the Alaska legislature's first direct initiative in shaping state royalty policy, we'd respectfully suggest that the legislature take one matter at a time.

* * *

Our proposal includes these amendments:

(1) A July 1, 1996 effective date. HB 325 would extend the royalty suspension to wells drilled on or after July 1, 1995. The purpose of the bill is to create an incentive to develop ANS heavy oil reserves, and it is hard to justify retroactive application on that basis. We recommend that the retroactive aspect of the legislation be deleted;

(2) Compute the 1825 day suspension period by reference to "days in operation." Lessees are already required to report the number of actual production days to the AOGCC, and these are called "days in operation." Conforming the bill's language to pre-existing practice minimizes the possibility of dispute over whether a well produced oil on a given day;

(3) Specifying how a well qualifies as a heavy oil well. HB 325 extends the royalty suspension to an ANS "well producing heavy oil." While the bill requires lessee's to keep gravity records, it does not specify whether a well need only produce heavy oil initially, or continuously over the suspension period, or at least over regular sampling intervals.

Our amendments (see p. 3, ls. 5-10) attempt to clarify this in a way that protects that state while conforming, to the extent feasible, to current testing and measurement practice. The AOGCC does not require periodic oil gravity reporting. A lessee will certainly test for API gravity at the outset of production. However, since gravity from the same pool will change little over time, subsequent testing may only occur on an annual basis.

Our amendments provide that the lessee must test initially, and then quarterly thereafter, and provide those test results to DNR with its regular royalty reports. More frequent testing of potentially dozens of wells would pose an impractical burden without any corresponding benefit to the state.

As the bill would read, then, the period of suspension is absolute--1825 production days. If, within any given three-month period during the suspension, the required well tests yield a gravity higher than 20 degrees API, the lessee would lose the suspension for that quarter. From the state's perspective, then, the enclosed amendments are more protective than the original bill. The suspension cannot exceed five years' of production, but, for any given well, it may be materially less.

While the AOGCC does not require periodic gravity reporting, it does reference industry standard API measurement procedures in its regulations. Our amendments incorporate those standards for performing the periodic gravity measurements.

Finally, you are aware that HB 325 grants the suspension on a well basis, while royalties are usually paid on a lease basis (since different leases may have different royalty rates). However, royalty-free production from a heavy oil well can easily be attributed to the individual leases drained by that well, just as royalty-burdened production is apportioned now. Because the calculations are straightforward, we did not see any need to deal with that issue in the legislation.

(4) Style and technical changes. We are proposing that HB 325 add a new subsection to AS 38.05.180, rather than amend §180(j). With the amendments made to §180(j) by HB 207, the structure of that subsection is no longer compatible with the substance of HB 325. ^{1/} We have also cleaned up a cumbersome sentence at page 2, lines 17-24 in the original bill, and made certain other technical or style changes. ^{2/}

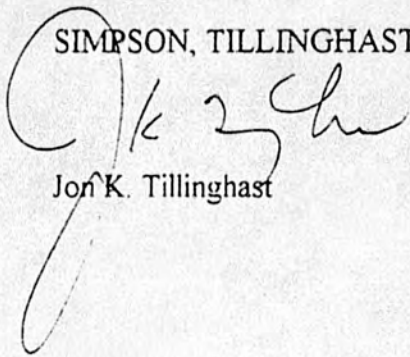
^{1/} For example, §180(j), in its entirety, is now premised with the phrase "the commissioner [may]." But HB 325 does not grant authority to the commissioner; rather, it sets royalty rates in a self-executing fashion. Thus, we can't simply add the body of HB 325 as something else that the commissioner "may," or even "shall," do.

^{2/} For example, at page 2, line 14 of our amendments, we refer to the suspension as "taken" rather than "claimed." We think the distinction important, since one purpose of the bill is to create an incentive that applies by operation of law, rather by agency decision. And in this respect, "claimed" sounds too much like "requested" or "applied for."

Thank you for the consideration that I know you will give our proposal, and we very much look forward to participating in the October 24th workshop.

Sincerely,

SIMPSON, TILLINGHAST, SORENSEN & LORENSEN



Jon K. Tillinghast

9-LS1122R
Chenoweth
1/22/96

CS FOR HOUSE BILL NO. 325(O&G)

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - SECOND SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Offered:

Referred:

Sponsor(s): REPRESENTATIVE GREEN

A BILL

FOR AN ACT ENTITLED

1 "An Act authorizing exemption from payment of royalty for initial production of
2 a portion of the heavy oil produced from wells on the Arctic Slope; and
3 providing for an effective date."

4 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

5 * Section 1. AS 38.05.180 is amended by adding a new subsection to read:

6 (dd) Notwithstanding any other provision of this section or any provision in
7 a lease, unit agreement, or other agreement between a lessee and the state that
8 establishes an obligation to pay royalty on production, royalty is not payable, under the
9 conditions and to the extent described in this subsection, for the production of heavy
10 oil that is removed or sold from a lease or leases located north of the Umiat baseline.
11 For purposes of this subsection, "heavy oil" means oil having a weighted average equal
12 to or less than 20 degrees API gravity as the term "API gravity" is defined in
13 AS 43.55.900. Under this subsection, the exemption from payment of royalty applies
14 (1) only to the portion of the value at the wellhead, net of eligible field

1 cost deductions, as calculated for the month of production, for the first 500 barrels of
2 daily production of heavy oil from the well, that, for the period beginning on

3 (A) the effective date of this section and until December 31,
4 1996, does not exceed \$15 per barrel; and

5 (B) the first day of the calendar year during each calendar year
6 beginning January 1, 1997, does not exceed the amount specified under (A) of
7 this paragraph as adjusted for inflation or deflation; in making the adjustment, the
8 department shall, not later than February 15 of each calendar year, calculate and
9 apply to the amount set out in (A) of this paragraph a change in the dollar
10 amount to the extent of the change in the producer price index for finished goods
11 compiled by the United States Department of Labor; the index for January 1996
12 is the reference base index;

13 (2) only if the actual drilling of the well from which the heavy oil is
14 produced began on or after July 1, 1996, and before July 1, 2006;

15 (3) only to heavy oil produced during the first 1,825 days of well
16 operation after the start of production of oil from the well, as reported to the Alaska Oil
17 and Gas Conservation Commission; and

18 (4) for a well only if the lessee

19 (A) submits with its royalty report for the first month for which
20 the exemption from royalty payment under (1) - (3) of this subsection is claimed
21 and with subsequent royalty reports at quarterly intervals for so long as the
22 exemption continues, oil gravity test results performed during the period for
23 which the royalty report is filed demonstrating that the oil tested is heavy oil; the
24 report must be in accordance with the standards for measurement and testing set
25 out in the regulations of the Alaska Oil and Gas Conservation Commission; and

26 (B) maintains, for a period of at least two years after the last day
27 of the royalty payment exemption authorized by this subsection, records of
28 production that show the actual date that drilling of the well started, the daily
29 production from the well, and the API degree gravity data, and allows the
30 department to inspect the records during regular business hours.

31 * Sec. 2. This Act takes effect immediately under AS 01.10.070(c).

9-LS1122\O✓
Chenoweth
1/22/96

CS FOR HOUSE BILL NO. 325(O&G)
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5 * **Section 1.** AS 38.05.180 is amended by adding a new subsection to read:

6 (dd) Notwithstanding any other provision of this section or any provision in
7 a lease, unit agreement, or other agreement between a lessee and the state that
8 establishes an obligation to pay royalty on production, royalty is not payable for the
9 portion of the production of heavy oil described in this subsection that is removed or
10 sold from a lease or leases located north of the Umiat baseline. For purposes of this
11 subsection, "heavy oil" means oil having a weighted average API gravity that meets
12 the definition of heavy oil in 26 U.S.C. 613A(c)(6)(F). Under this subsection, the
13 obligation to pay royalty on the production does not apply

14 (1) to the portion of the value at the wellhead, net of eligible field cost

deductions, as calculated for the month of production, for the first 500 barrels of daily production of heavy oil from the well, that, for the period beginning on

(A) the effective date of this section and until December 31, 1996, does not exceed \$15 per barrel; and

(B) the first day of the calendar year during each calendar year beginning January 1, 1997, does not exceed the amount determined under (A) of this paragraph as adjusted for inflation or deflation; in making the adjustment, the department shall, not later than February 15 of each calendar year, calculate and apply to the amount set out in (A) of this paragraph a change in the dollar amount to the extent of the change in the producer price index for finished goods compiled by the United States Department of Labor; the index for January 1996 is the reference base index;

(2) only if the actual drilling of the well from which the heavy oil is produced began on or after July 1, 1996, and before July 1, 2006;

(3) only to heavy oil produced during the first 1,825 days of well operation after the start of production of oil from the well, as reported to the Alaska Oil and Gas Conservation Commission; and

(4) for a well only if the lessee

(A) submits with its royalty report for the first month for which the exemption from royalty payment under (1) - (3) of this subsection is claimed and with subsequent royalty reports at quarterly intervals for so long as the exemption continues, oil gravity test results performed during the period for which the royalty report is filed demonstrating that the oil tested is heavy oil; the report must be in accordance with the standards for measurement and testing set out in the regulations of the Alaska Oil and Gas Conservation Commission; and

(B) maintains, for a period of at least two years after the last day of the royalty payment exemption authorized by this subsection, records of production that show the actual date that drilling of the well started, the daily production from the well, and the API degree gravity data, and allows the department to inspect the records during regular business hours.

* Sec. 2. This Act takes effect immediately under AS 01.10.070(c).

9-LS1122\M
Chenoweth
1/15/96

*This version was adopted by
D+6 11/14/95.*

CS FOR HOUSE BILL NO. 325(O&G)

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - SECOND SESSION

BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS

Offered:
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Sponsor(s): REPRESENTATIVE GREEN

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2 state for initial production of heavy oil from wells on the Arctic Slope; and
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7 a lease, unit agreement, or other agreement between a lessee and the state that
8 establishes an obligation to pay royalty on production, the obligation to pay a royalty
9 on the amount or value of the production removed or sold from a lease or leases
10 located north of the Umiat baseline is suspended for the production of the first 500
11 barrels of daily production of heavy oil from a well. For purposes of this subsection,
12 "heavy oil" means oil having a weighted average API gravity that meets the definition
13 of heavy oil in 26 U.S.C. 613A(c)(6)(F). Suspension under this subsection of the
14 obligation to pay a royalty is available only

1 (1) if the actual drilling of the well on which the royalty payment may
2 be suspended began on or after July 1, 1996;

3 (2) for the first 1,825 days of well operation after the start of production
4 of oil from the well, as reported to the Alaska Oil and Gas Conservation Commission;
5 and

6 (3) for a well for which a lessee claims a suspension of the obligation
7 to pay the royalty and only if the lessee

8 (A) submits with its royalty report for the first month for which
9 the suspension is claimed and with subsequent royalty reports at quarterly
10 intervals for so long as the suspension continues, oil gravity test results
11 performed during the period for which the royalty report is filed demonstrating
12 that the oil tested is heavy oil; the report must be in accordance with the
13 standards for measurement and testing set out in the regulations of the Alaska Oil
14 and Gas Conservation Commission; and

15 (B) maintains, for a period of at least two years after the last day
16 of royalty suspension authorized by this subsection, records of production that
17 show the actual date that drilling of the well started, the daily production from
18 the well, and the API degree gravity data, and allows the department to inspect
19 the records during regular business hours.

20 * Sec. 2. This Act takes effect immediately under AS 01.10.070(c).

AMENDMENT

TO: HB 325
9-LS1122\K

SPECIAL COMMITTEE ON OIL & GAS
NOVEMBER 14, 1995

Page 1, Line 11: Delete to the period (.), and Insert the following: "barrels of daily production of heavy oil from a well."

9-LS1122K
Chenoweth
11/13/95

CS FOR HOUSE BILL NO. 325()

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVE GREEN

A BILL

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9 on the amount or value of the production removed or sold from a lease or leases
10 located north of the Umiat baseline is suspended for the production of the first 500
11 barrels of daily production from a well producing heavy oil. For purposes of this
12 subsection, "heavy oil" means oil having a weighted average API gravity that meets
13 the definition of heavy oil in 26 U.S.C. 613A(c)(6)(F). Suspension under this
14 subsection of the obligation to pay a royalty is available only

1 (1) if the actual drilling of the well on which the royalty payment may
2 be suspended began on or after July 1, 1996;

3 (2) for the first 1,825 days of well operation after the start of production
4 of oil from the well, as reported to the Alaska Oil and Gas Conservation Commission;
5 and

6 (3) for a well for which a lessee claims a suspension of the obligation
7 to pay the royalty and only if the lessee

8 (A) submits with its royalty report for the first month for which
9 the suspension is claimed and with subsequent royalty reports at quarterly
10 intervals for so long as the suspension continues, oil gravity test results
11 performed during the period for which the royalty report is filed demonstrating
12 that the oil tested is heavy oil; the report must be in accordance with the
13 standards for measurement and testing set out in the regulations of the Alaska Oil
14 and Gas Conservation Commission; and

15 (B) maintains, for a period of at least two years after the last day
16 of royalty suspension authorized by this subsection, records of production that
17 show the actual date that drilling of the well started, the daily production from
18 the well, and the API degree gravity data, and allows the department to inspect
19 the records during regular business hours.

20 * Sec. 2. This Act takes effect immediately under AS 01.10.070(c).

SCOMM

96:12

Alaska Oil and Gas Association



121 W. Fireweed Lane, Suite 207
Anchorage, Alaska 99503-2035
Phone: (907)272-1481 Fax: (907)279-8114
L. A. (Ardie) Gray, Public Affairs Manager

May 10, 1995

The Honorable Norman Rokeberg, Chairman
Special Committee on Oil and Gas
Alaska State House of Representatives
Capitol Building, Room 110
Juneau, Alaska

Dear Representative Rokeberg:

The Alaska Oil and Gas Association (AOGA) is a trade association whose member companies account for the majority of oil and gas exploration, production, transportation, refining and marketing activities in Alaska.

For your immediate reference, we are sending, via facsimile, the Association's position statement on CSSB 176/CSHB 334, relating to regulation of certain natural gas exploration facilities for purposes of preparation of discharge prevention and contingency plans and compliance with financial responsibility requirements.

If you have any questions or would like additional information regarding AOGA's position on this legislation, please call me at 272-1481.

Sincerely,

A handwritten signature in cursive script, reading "Leigh A. Gray".

LEIGH "ARDIE" GRAY
Public Affairs Manager

Attachment

**AOGA POSITION
ON CSSB 176/CSHB 334,
RELATING TO REGULATION OF CERTAIN NATURAL GAS
EXPLORATION FACILITIES FOR PURPOSES OF PREPARATION OF
DISCHARGE PREVENTION AND CONTINGENCY PLANS AND
COMPLIANCE WITH FINANCIAL RESPONSIBILITY REQUIREMENTS**

The Alaska Oil and Gas Association (AOGA) is a trade association whose 19 member companies account for the majority of oil and gas exploration, production, transportation, refining and marketing activities in Alaska.

The Association has reviewed CSSB 176 and its companion CSHB 334 and is concerned about the legislation for the following reasons:

- AOGA believes that state law requiring preparation and implementation of discharge prevention and contingency plans and that the law requiring compliance with financial responsibility requirements for oil and natural gas exploration facilities should be consistent.
- The Association believes it is in the state's best interest to require that consistent, equitable and adequate financial responsibility requirements be met by all persons/companies conducting oil and gas exploration operations in Alaska. The Association is aware of the state's interest to provide opportunities for smaller, independent oil and gas operators, however, the Association believes it is not in the state's best interest to assume financial liability for any operator.

STATE OF ALASKA
DEPARTMENT OF LAW
OFFICE OF THE ATTORNEY GENERAL
ENVIRONMENTAL SECTION
1031 W. 4th Avenue, Suite 200
Anchorage, AK 99501
907/269-5100

Our Fax Number: (907) 278-7022

FAX TRANSMITTAL LETTER

THE INFORMATION CONTAINED IN THIS FAX IS CONFIDENTIAL AND/OR PRIVILEGED. THIS FAX IS INTENDED TO BE REVIEWED INITIALLY BY ONLY THE INDIVIDUAL NAMED BELOW. IF THE READER OF THIS TRANSMITTAL PAGE IS NOT THE INTENDED RECIPIENT OR A REPRESENTATIVE OF THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY REVIEW, DISSEMINATION OR COPYING OF THIS FAX OR THE INFORMATION CONTAINED HEREIN IS PROHIBITED. IF YOU HAVE RECEIVED THIS FAX IN ERROR, PLEASE IMMEDIATELY NOTIFY THE SENDER BY TELEPHONE AND RETURN THIS FAX TO THE SENDER AT THE ABOVE ADDRESS. THANK YOU.

PLEASE DELIVER THE FOLLOWING PAGES TO:

Jack Phelps
House ~~State~~ Committee
Resource

FAX NO: 465 3793

Total Number of Pages including this cover sheet: 5

Here is the language. Rob Mintz and I
have worked out with AOGCC and DEC
for HB 334. Sections 2 & 4 are not
necessary but we included revisions to
confirm the correct language.

DATE: 5/5/95

TIME: 4:30pm

FROM: Breck Tostevin

Assistant Attorney General - Anchorage

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL:

Vicki O'Brien, Mary Simconoff or Lory Hahn at (907) 269-5274.

Proposed changes to H.B. 334 by AOGCC

*Section 1. AS 31.05.030 is amended by adding a new subsection to read:

MAY 05 1995

(1) When requested by a person proposing to explore for gas by means of drilling a well, the commission may evaluate the likelihood that the well will penetrate a formation containing oil. If the commission concludes with reasonable certainty that the well will not penetrate a formation containing oil, the commission shall so certify.

*Sec. 3. AS 46.04.030 is amended by adding a new subsection to read:

(s) If a well certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i) penetrates a formation containing oil, the operator of the exploration facility shall

... item (1) Notify the Alaska Oil & Gas Conservation Commission
& all other appropriate state agencies
item (2) as written

~~*Sec. 5. AS 46.04.040 is amended by adding a new subsection to read:~~

~~(n) if a well certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i) penetrates a formation containing oil, the operator of the exploration facility shall cease all activity until the requirements of (b) of this section are met.~~

Sec. 5 AS 46.04.040 is amended by adding a new subsection to read:

(n) if a well certified by the Alaska Oil & Gas Conservation Commission under AS 31.05.030(i) penetrates a formation containing oil, the operator of the exploration facility shall cease ^{exploration} activity until the requirements of (b) of this section are met.

* Sec. 6. AS 46.04.050 is amended by adding a new section to read:

(c) Except as provided in AS 46.04.030(s) and 46.04.040(n), AS 46.04.030(b) and 46.04.040(b) do not apply to operation of an exploration facility to the extent that it is used to drill a well certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i).

HB 334 Draft

* Sec. 1. AS 31.05.030 is amended by adding a new subsection to read:

(i) When requested by a person proposing to explore for gas by means of drilling a well, the commission may evaluate the likelihood that the well will penetrate a formation containing oil. If the commission concludes with reasonable certainty that the well will not penetrate a formation containing oil, the commission shall so certify.

* Sec. 2. [Delete. But if required, use revised section 2 attached.]

* Sec. 3. AS 46.04.030 is amended by adding a new subsection to read:

(s) If a well certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i) penetrates a formation containing oil, the operator of the facility

(1) shall notify the department, the Alaska Oil and Gas Conservation Commission, and all other appropriate state agencies; and

(2) may not conduct exploration activity except

(A) in compliance with an oil discharge prevention and contingency plan for the facility approved by the department; or

(B) in compliance with an oil discharge prevention and contingency plan for the facility

submitted to the department, pending the department's decision on plan approval.

* Sec. 4. [Delete. But if required, use revised section 4 attached.]

* Sec. 5. AS 46.04.040 is amended by adding a new subsection to read:

(n) If a well certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i) penetrates a formation containing oil, the operator of the facility may not conduct exploration activity until the requirements of (b) of this section are met.

* Sec. 6. AS 46.04.050 is amended by adding a new subsection to read:

(c) Except as provided in AS 46.04.030(s) and 46.04.030(n), the provisions of 46.04.030(b) and 46.04.040(b) do not apply to the operation of an exploration facility to the extent that it is used to explore for gas by means of drilling a well that has been certified by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i).

* Sec. 7. This Act takes effect immediately under AS 01.10.070(c).

Sec. 2. AS 46.04.030(b) is amended to read:

(b) A person may not cause or permit the operation of a pipeline or [AN EXPLORATION OR] production facility in the state or, except as provided in AS 46.04.050(c), may not cause or permit the operation of an exploration facility in the state unless an oil discharge prevention and contingency plan for the pipeline or facility has been approved by the department and the person is in compliance with the plan.

Sec. 4. AS 46.04.040(b) is amended to read:

(b) A person may not cause or permit the operation of a pipeline or [AN EXPLORATION OR] production facility in the state or, except as provided in AS 46.04.050(c), may not cause or permit the operation of an exploration facility in the state unless the person has submitted to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required for

(1) a pipeline or an offshore exploration or production facility is \$50,000,000 per incident;

(2) an onshore production facility is

(A) \$20,000,000 per incident if the facility produces over 10,000 barrels per day of oil;

(B) \$10,000,000 per incident if the facility produces over 5,000 barrels per day but not more than 10,000 barrels per day of oil;

(C) \$5,000,000 per incident if the facility

3

produces over 2,500 barrels per day but not more than 5,000 barrels per day of oil;

(D) \$1,000,000 per incident if the facility produces 2,500 barrels per day or less of oil;

(3) an onshore exploration facility is \$1,000,000.

4

LAPP Resources Inc.

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Facsimile +1 (907) 248-7278

May 4, 1995

Representative N. Rokeberg
State Capitol
Juneau, AK 99811

Attn: House Oil and Gas Committee
Re: Committee Substitute HB 334

Dear Representative Rokeberg:

I look forward to the joint Resources and Oil and Gas hearing tomorrow morning at 8:00am. I believe that it is extremely important to pass this bill for the following reasons.

Alaska's bonding requirements are extremely onerous for all but major companies. This is one reason that independents do not operate in Alaska, and small developments serving local Alaskan markets are not feasible.

Alaska has multiple layers of protection in current statutes and regulations:

- \$1,000,000 bond for exploration wells with the DEC,
- \$10,000 to \$500,000 lease bond with the DNR, and
- \$100,000 single well or \$200,000 statewide bond with the AOGCC.

This is potentially \$1.7 million in bonds for even the smallest exploration well. If the well encounters oil, and production ensues, even larger bonds are required by DEC.

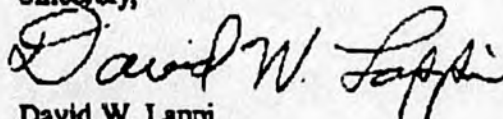
Alaska also has the 470 Fund, a \$50 million emergency kitty for use during oil or other hazardous spill emergencies. This kitty was funded and is maintained by a two cent per barrel tax on oil production.

In light of continuing State budget shortfalls, the State can no longer afford to be an obstacle to private development.

LAPP Resources is currently pursuing small natural gas projects which could supply some areas of rural Alaska with locally-produced gas as a lower cost, more environmentally-friendly fuel than the currently imported diesel fuel. The wells could be drilled for under \$100,000 in some areas. If bonding costs are not reduced, these projects will not be economic, as the bonds will cost more than the drilling. With reduced bonding, independent private gas exploration companies, Native Regional Corporations, or in some cases Village Corporations or rural utilities may be able to participate in the development of their own local energy resources.

Although incentives for the industry are nice, dismantling the disincentives to business will be more effective in the long run and will maintain the State's royalty stream for a longer period.

Sincerely,



David W. Lappi
President

cc Representative Joe Green - Resources Committee Co-Chair
Representative Bill Williams - Resources Committee Co-Chair

Memorandum State of Alaska
Oil and Gas Conservation Commission

To: Representative Rokeburg
 Alaska State Legislature

Date: October 20, 1995

Telephone: 279-1433
Fax number: 276-7542

From: David W. Johnston
 Chairman

Subject: SB 176

The following is my testimony on SB 176. Thank you for the opportunity to comment.

SB176 would authorize the Commission to certify a well as not likely to penetrate a formation containing oil. The operator of a well so certified would not be required to prepare an oil discharge prevention and contingency plan and would be relieved of the financial responsibility requirements of AS 46.

The Commission believes this is a reasonable proposal for the legislature to consider which, if it becomes law, should greatly assist independent operators in developing Alaska's natural gas. The independent operator is the heart and sole of the industry in the lower 48. If operational costs can be lowered in Alaska, it is likely that we too can have a successful group of independents, providing local revenue and employment opportunities for all Alaskans.

The Commission employs a number of knowledgeable oil and gas professionals, capable of analyzing available information to make a reasonable assessment of the likelihood of encountering a formation containing oil. In fact, the Commission has already provided input along these lines to DEC. We would welcome the more formal responsibilities provided by this bill.

With appropriate sideboards, the Commission is convinced that a certification program can be established that will promote development of Alaska's natural gas in a safe and responsible manner. For example, the Commission would not be willing to certify a well in wildcat areas where little or no drilling has taken place. However, in other areas, such as the west side of the Cook Inlet, significant drilling has occurred during the last 30 years. In this area, certification may be appropriate using nearby well control.

The Legislature must understand, however, that regardless of the amount of available well data, there will always be some level of risk of encountering oil. One is never sure until the drill bit finally tells the story.

Should you have any questions, please call.

Z-ENERGY INC.

May 4, 1995

Representative Norm Rokeberg
Chairman, Oil & Gas Committee
Alaska State Legislature
Juneau, AK 99801

VIA FAX: 907-465-2040

Re: CS HB 334

Dear Representative Rokeberg:

As President of a nascent oil and gas exploration and production (E&P) company with 27 square miles of hydrocarbon properties in the Cook Inlet Basin held by the company and its principals, I am writing this letter in support of CS HB 334 entitled "Exempt Natural Gas Facilities from Oil Spill Bond and Plans."

I will provide oral testimony at the May 5, 1995 hearing before the Oil & Gas Committee and the Resources Committee. Briefly, CS HB 334 is critical to the survival of small Independent E&P companies. Also, CS HB 334 is a rational response to the illogical problem of requiring oil spill bonding and contingency planning in the context of a natural gas well. Because deep stratigraphic wells are not expected to encounter oil, they are already exempt from oil spill contingency planning and bonding. The Alaska Oil and Gas Conservation Commission has the necessary technical expertise and geophysical knowledge to draw reasonable conclusions about the probability of encountering oil in a well being drilled on a previously delineated geologic structure. In this context, if the AOGCC concludes that it is improbable for a proposed well to encounter oil, imposing oil spill contingency bonding and planning upon the operators creates a useless economic burden that does nothing to protect the environment.

From an economic perspective, passage of CS HB 334 will allow Independents to develop and produce reserves that may not be evaluated as economically viable by the Majors. Similarly, development of coalbed methane for Bush villages would become more economically feasible with passage of CS HB 334. This resource could provide village residents with an inexpensive and clean fuel for heat and electricity. Furthermore, the environmental risks associated with transporting fuel oil in the bush could be reduced through development of this local environmentally friendly resource.

There are many reasons why there are 8000 Independents doing business in the Lower-48 and only a couple of Independents (Stewart Petroleum & CIRI) producing in Alaska. One of these reasons is the onerous oil spill bonding requirement on natural gas exploration projects. Passage of CS HB 334 could help remove a major hurdle standing

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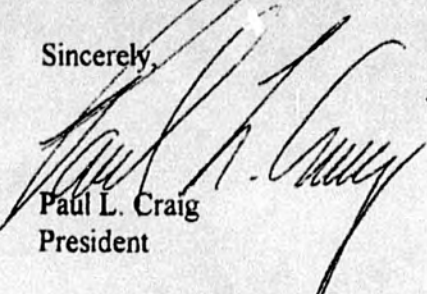
Z-ENERGY INC.

Page 2

in the way of development of Alaskan owned and operated Independent oil and gas exploration and production companies.

Thank you for your support of Committee Substitute for HB 334 entitled, "Exempt Natural Gas Facilities from Oil Spill Bond and Plans."

Sincerely,



Paul L. Craig
President

cc: Representative Joe Green
Representative Bill Williams

Proposed CSHB 334(O&G) Exempt Natural Gas Facilities from Bond & Plans

Sectional Analysis

Section 1 of the bill amends AS 31.05.030 by adding a new subsection (i) granting authority to the Alaska Oil & Gas Conservation Commission (AOGCC) to determine whether there is a reasonable expectation that an exploration well will encounter oil when requested by a permit applicant to do so. If the Commission determines there is no reasonable probability that the activity will encounter oil, the Commission must so certify.

Section 2 of the bill amends AS 46.04.030(b) to exempt exploration activities from the requirement to have an oil spill contingency plan in place if the activity has been certified by the AOGCC under the provisions of AS 31.05.030(i), added by Section 1 of the bill, unless the operator encounters oil.

Section 3 of the bill adds a new subsection (s) to AS 46.04.030 requiring an operator of a facility exempted under AS 31.05.030(i) to notify the local oil spill response cooperative and all appropriate state agencies, and to develop an oil spill response plan within 15 days, if the operator encounters oil.

Section 4 of the bill amends AS 46.04.040(b) to exempt exploration activities from the oil spill financial responsibility requirements if the activity has been certified by the AOGCC under AS 31.05.030(i)

Section 5 of the bill amends AS 46.04.040 by adding a new subsection (n) requiring the operator of an activity exempt under AS 31.05.030(i) to obtain a surety bond to assure performance of surface clean up. The amount of the bond is to be set by AOGCC.

Section 6 of the bill amends AS 46.04.050 by adding a new subsection (c) creating a general exemption for facilities certified under AS 31.05.030(i). The exemption applies to financial responsibility requirements and oil spill contingency plan responsibilities except as provided in Sections 3 and 5 of the bill.

Section 7 of the bill provides for an immediate effective date under AS 01.10.070(c).

Memorandum State of Alaska
Oil and Gas Conservation Commission

To: Jack Phelps
 c/o Rep. Rokeburg

Date: May 4, 1995

Telephone: 279-1433
Fax number: 276-7542

From: David W. Johnston
 Chairman

Subject: HB 334

The Commission proposes the following changes in HB334.

In Section 1, we propose the following language:

"(i) When requested by a person proposing to explore for gas by means of drilling a well, the commission may determine the likelihood that the drilling activity will penetrate a formation containing oil. If the Commission concludes with reasonable certainty that the drilling activity will not penetrate a formation containing oil, the commission shall so certify as to the natural gas exploration facility used in that drilling. For purposes of this subsection, the term natural gas exploration facility has the same meaning as in AS 46.04.900." [Note: Need a definition for natural gas exploration facility in AS 46.04.900 (i.e., natural gas exploration facility shall mean an exploration facility used only for natural gas exploration.)]

In Section 3, we recommend deleting the phrase after AS 31.05.030(i). The section should read:

"If the operator of a natural gas exploration facility, for which the Alaska Oil and Gas Conservation Commission has certified under AS 31.05.030(i), encounters oil, the operator shall...."

We then recommend changing item (1) to read:

"notify the Alaska Oil and Gas Conservation Commission and all other appropriate state agencies."

In Section 5, we recommend the following language:

"If the operator of a natural gas exploration facility for which the Alaska Oil and Gas Conservation Commission certifies under AS 31.05.030(i) encounters oil, the operator must cease all activity until the bonding requirement of (b) of this section are met."

The commission lacks expertise for determining the appropriate bonding amounts to assure surface clean up spilled oil. The commission would likely need to add staff to accomplish this task.

Finally, in section 6, we recommend ending the subsection after AS 31.05.030(i).

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

TONY KNOWLES, GOVERNOR

3601 C STREET, SUITE 1380
ANCHORAGE, ALASKA 99503-5948
PHONE: (907) 762-2549Representative Norman Rokeberg
Room 110
State Capital Building
Juneau, AK 99801-1182

May 9, 1995

RE: House Bill 334

SENT VIA FAX ONLY

Dear Representative Rokeberg:

At your request I researched the state Cook Inlet oil and gas lease holdings of Z Energy and Lapp Resources. I also looked into which if any additional Cook Inlet independent operators, individuals or small company lease holders currently hold oil and gas leases where "gas only" exploration may be undertaken. Listed below is a first cut at the leases. I didn't have much time to research the issue, so the list could be longer.

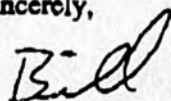
lease number	owner (only one owner shown)	expiration date
374129	Lapp Resources	3-31-1998
374135	Lapp Resources	3-31-1998
374134	Lapp Resources	3-31-2000
381224	Z Energy	3-31-2000

There are at least a dozen or more oil and gas leases where individuals and/or independent operators hold interests and where "gas exploration" is a possibility. However, "gas only" exploration on these leases is only one possibility. As you know, except for the very shallow depths, many areas in the Cook Inlet basin are oil prone as well as gas prone.

One area you may want to address in the CS for the Bill is requiring some minimal amount of a bond to cover accidental non crude oil related spills associated with the exploration operation. Of the spills that do occur, most are related to fuel, hydraulic fluid or lube oil. Crude oil is the exception.

Let me know if you have any further questions.

Sincerely,



Bill Van Dyke
Petroleum Manager



Alaska State Legislature

HOUSE RESOURCES COMMITTEE

State Capitol
Juneau, Alaska 99801-1182
(907) 465-3715

SPONSOR STATEMENT

HB 334

In 1992, the Alaska Legislature passed amendments exempting gas production facilities and gas terminal facilities from the requirements to post a \$1 million bond and develop an approved oil spill contingency plan. Gas exploration activities, however, are not exempt from these requirements. This acts as a deterrent for small operators who may want to develop potential gas fields in areas where there is small likelihood of striking oil. The bonding requirement is particularly daunting, since a \$1 million bond would cost a small operator approximately \$70,000 to post. This is cost prohibitive in many cases.

House Bill 334 addresses this problem by making provisions for an exemption under controlled circumstances. The bill provides that the Alaska Oil & Gas Conservation Commission (AOGCC) must determine that there is a reasonable probability the exploration activity is not directed to a formation containing oil before the exemption is allowed. The bill further requires the applicant to obtain a surety bond in an amount determined by the AOGCC.

House Bill 334 also establishes an interim response plan that must be followed by an operator exploring under an exemption permit if the operator encounters oil during the course of his exploration. Under provisions of the bill, the operator must notify the local oil spill response cooperative and all other appropriate state agencies. The operator must also submit an oil discharge prevention and contingency plan to the Department of Environmental Conservation within 15 days, and be in compliance with that plan.

**BRIEFING PAPER ON THE NEED TO AMEND AS 46.04.050 TO
INCLUDE GAS EXPLORATION WELLS
IN THE EXISTING GAS FACILITIES EXEMPTION
FROM OIL SPILL CONTINGENCY PLANNING AND
FINANCIAL RESPONSIBILITY REQUIREMENTS**

Under existing state law, oil and gas-related facilities, including oil and gas exploration facilities, are generally subject to the requirement to prepare an oil spill contingency plan (AS 46.04.030) and prove financial responsibility in the event of an oil spill by posting a bond or other means (AS 46.04.040). This requirement applies to all exploratory wells, without any consideration of whether the well is expected to encounter oil or gas.

An exemption for natural gas production and terminal facilities from oil spill contingency planning and financial responsibility requirements is set forth in AS 46.04.050(b). The exemption was adopted, with no opposition, because an accidental discharge of natural gas does not pose any environmental risk. Natural gas, unlike oil, dissipates harmlessly into the atmosphere at normal temperatures and pressures.

Some exploration wells are true wildcat wells and are drilled with no definitive knowledge of whether the well will encounter oil or gas. Because such a well may encounter oil, the imposition of the contingency planning and financial responsibility requirements is appropriate. Other exploration wells, which are essentially offset or delineation wells and not true wildcat exploration wells, may be targeted specifically at natural gas deposits or formations in areas with no known oil deposits, with the intention of extending the boundaries of existing fields or developing new fields in areas that previously have experienced exploration and/or development drilling providing information on potential deposits.

To date, the Alaska Dept. of Environmental Conservation has interpreted the exemption in AS 46.04.050(b) in a manner that excludes gas extension, offset or delineation wells, even though such wells have no reasonable likelihood of encountering oil and instead ultimately are intended to produce only gas. Exploratory wells that are targeted solely at natural gas, and have no reasonable likelihood of encountering oil, should not be subject to the expensive, burdensome contingency planning and financial responsibility requirements. Stratigraphic wells or other drilling not intended to drill to a producing formation already are exempted from the contingency plan and financial responsibility requirements under the definition of exploration facility in AS 46.04.900(8).

An exemption for gas exploratory facilities in AS 46.04.050 is necessary to allow smaller, independent oil and gas operators to economically explore and develop smaller properties in existing natural gas provinces such as those in the Cook Inlet Basin. Imposing the very expensive and burdensome contingency planning and financial responsibility requirements on wells that have no reasonable expectation of encountering oil stifles exploration for gas by smaller companies without providing any additional environmental protection.

Without an exemption for gas exploratory wells, the application of AS 46.04.030 and 46.04.040 results in absurd situations. Under the contingency plan requirement to plan for the "realistic maximum oil discharge," for example, the estimate of such a discharge would have to be zero, because there would be no reasonable expectation, based on well logs or other geologic analyses, of encountering oil when drilling such a well. In the case of the financial responsibility requirements, the "per incident" language in AS 46.04.040(b) essentially means that the financial responsibility requirement has no effect when applied to its proposed well, because no oil-related incident could occur from the drilling of the well. These absurdities illustrate why the exemption for gas facilities in AS 46.04.050(b) should include gas exploratory facilities.

To the extent that any question exists as to the likelihood of encountering oil, the State of Alaska Oil and Gas Conservation Commission has the technical expertise to answer the question as part of its drilling permit review process. All oil or gas wells (whether classified as exploratory, development, service or stratigraphic) require a drilling permit from the Alaska Oil and Gas Conservation Commission, and include the requirement to post a \$100,000 bond with the Commission for any liabilities resulting from drilling activities.

Z-ENERGY INC.

April 9, 1995

Senator Loren Leman
State Capital
Juneau, AK 99801

Dear Senator Leman:

Thank you for discussing the Independent Oil & Gas Industry with me during our Juneau - Anchorage flight on Friday. As I promised, please find attached a proposed amendment that would solve the bonding problem for gas exploration wells. A briefing paper is attached for your review.

The proposed amendments to 46.04.050 would resolve a major barrier preventing Dave Lappi of Lapp Resources Inc. and myself from drilling natural gas wells. As I mentioned, there are many other hurdles that should either be removed or streamlined. However, Rome was not built in a day and the problems facing the Independents will not be resolved in one session. If we can resolve the issue of oil spill contingency bonding for natural gas wells this session, we will have accomplished a lot.

I do not think there will be any environmental opposition to this amendment. Natural gas represents an environmentally friendly fuel. If this amendment is passed, Independents could approach small villages regarding use of locally produced coalbed methane to generate electricity and fuel. It is conceivable that some vehicles in the villages could be converted to natural gas. The outcome would be less hazard of spillage associated with the transport of fuel oil, diesel, and gasoline to bush communities. Also, the villages would enjoy improved air quality by burning natural gas rather than the heavier hydrocarbons.

Exemption of natural gas production and transportation facilities from the oil spill contingency bonding requirements was easily adopted by the Alaska Legislature when it was discovered that these facilities had been inappropriately subsumed under oil spill legislation. The proposed amendment is a logical extension of the exemption of natural gas facilities.

If this amendment is not passed, Independents will be left in the untenable position of buying a one million dollar oil spill contingency bond and hiring a consultant to write an oil spill contingency plan to meet DEC requirements. Writing such a plan becomes an exercise in absurdity. For example, under the section specifying expected quantities of oil to be encountered, the logical answer would be "none." Writing an oil spill contingency plan costs about \$100,000. Buying the bond is expected to cost about \$70,000 to \$100,000 -- assuming a vendor can be found. This type of bonding is not required for land based operations anywhere else in the United States. There is no protocol for how

Z-ENERGY INC.

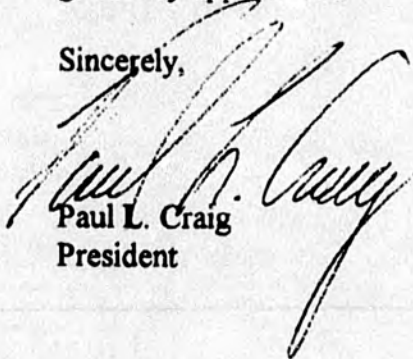
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to handle this type of bonding within the insurance industry. Hence, simply finding a vendor of this type of insurance product becomes a challenging task.

If this amendment is enacted, the AOGCC could be called upon to identify whether a given well has any chance of encountering liquid hydrocarbons. If not, then the Independent Exploration & Production Company could sensibly develop the prospect without fulfilling absurd oil spill contingency planning and bonding requirements. If the oil spill contingency requirements remain in place relative to natural gas wells, the Independents would make better use of their precious capital by drilling in the Sacramento Valley where an entire well can be drilled for the combined cost of writing an oil spill contingency plan and purchasing an oil spill contingency bond.

Thank you for your interest in the plight of the Independents in Alaska. I hope we are able to resolve this issue during the current session. Between sessions, we could discuss other pressing issues that are inhibiting the growth of the Independent industry in Alaska. Again, it was a pleasure speaking with you during the flight. Your concern for the needs of Alaskans attempting to build the Independent Exploration & Production industry is genuinely appreciated.

Sincerely,



Paul L. Craig
President

Enclosure: Proposed Amendment
 Briefing Paper

cc: Dave Lappi
 Lapp Resources, Inc.



E. A. OPSTAD & ASSOCIATES

Geoscience • Engineering • Project Management

3500 Taiga Drive (99516)

P.O. Box 190754

Anchorage, Alaska 99519-0754

Telephone/Fax : (907) 345-6346

Senator Loren Leman
State Capitol
Juneau, Alaska 99801

April 9, 1995

Subject: Amendment to AS 46.04.050

APR 13 1995

Dear Senator Leman:

This letter lends my support to efforts being made by Z-Energy and Lapp Resources to amend AS 46.04.050 by eliminating current bonding and oil spill contingency plan requirements for gas wells in the State of Alaska.

As currently enacted AS 46.04.050 requires a **One Million** dollar bond and *exhaustive* contingency planning to cover **crude oil** spill response procedures....for **gas** wells? Never mind that gas pipelines, gas processing facilities, gas export terminals, and all other related portions of the State's natural gas system have been appropriately exempted from these same bonding and spill contingency planning requirements! Not only is this regulatory framework illogical, it provides absolutely no incremental protection for the environment. When was the last time a crew was mobilized to environmentally remediate crude oil contamination resulting from a gas leak or incident? What current regulations do very well is erect tremendous financial hurdles for villages and small energy companies who wish to develop local natural gas resources for the benefit of their citizenry and owners.

I suspect that the current regulatory situation is a consequence of legislative oversight, or of being generally uninformed relative to the risks associated with natural gas resource exploration and development operations, rather than purposeful intent, but in any event, the current regulatory implementation has effectively stymied the emergence of an independent gas industry in Alaska.

As a licensed Professional Geologist speaking with 18 years of experience in the State I can tell you that Alaska imposes the most restrictive environment for gas operators among all 50 states. This burden is so great that most independent operators don't even bother to consider Alaska as a potential operations area. When enormous bonding and contingency planning requirements are coupled with the State's restrictive land leasing policy (no over-the-counter sales of exempt acreage) and high operating costs, most oil and gas companies simply elect to invest their time and money elsewhere. By way of an example, my company and its partners drilled 6 wells during 1994 in California with a total budget of approximately \$3.5MM (including pipeline and facility construction). This activity (funded largely with Alaska based money) created nearly 50 temporary California jobs associated with exploration drilling activities, and roughly a half a dozen new long term production jobs. The benefits of this work and associated tax revenues are being realized by California, not Alaska, because as Alaskans we find the regulatory environment in our own state too hostile for a small scale operations.

With its inherently high operating costs and remote location, Alaska may never become a major play for independent operators, but by removing some of the barriers that now exist we may at least unlock the door. Alaska needs a viable independent oil and gas industry to undertake projects which are too small to interest the large multinational companies that currently dominate Alaska's oil and gas scene. For example:

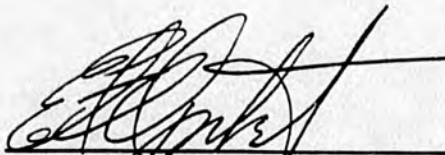
- Would any of the North Slope Operators consider a 2 or 3 well coal gas development program for heating and cooking fuel in one or more of the villages?
- Would any of the Cook Inlet Operators have developed the small West McAurthur River Unit discovered by Stewart Petroleum?
- Have the major companies either dropped leases on "uneconomic" fields or farm-out the acreage, so that they could be developed immediately by independent operators?
- Have any of the majors helped private property owners in the Cook Inlet realize the oil and gas potential of their property (excluding the big CIRI - UTP deal)?

The answer to all of these questions, with a very few exceptions, is of course, NO! Only with the emergence of a viable independent oil and gas industry will small Alaskan communities and private individuals be afforded the opportunity to develop their own energy resources. Only with the emergence of a viable independent oil and gas industry will the many small oil and gas pools throughout the State get developed in a timely fashion, and only a viable independent oil and gas industry can support Alaska when the majors move on to greener international pastures.

The road to developing a healthy independent oil and gas industry in Alaska will be long and arduous, because we have constructed so much of the State's regulatory framework around "big oil" situations. However, we can begin to correct this situation simply by eliminating the oil spill bonding and contingency planning requirements for exploration and development gas wells. This minor adjustment to current statute will open the door to energy independence for many villages and individuals throughout the State, and perhaps, lay the first course of block in the foundation of a new Alaskan industry.

Thank you for taking an interest in this issue, and please feel free to call on me for any support or assistance you might need relative to oil and gas matters.

Respectfully yours,



Erik A. Opstad, BS, MS, PG
President

EAO:lm

9-LS1150\K

Chenoweth

5/6/95

CS FOR HOUSE BILL NO. 334(O&G)**IN THE LEGISLATURE OF THE STATE OF ALASKA****NINETEENTH LEGISLATURE - FIRST SESSION****BY THE HOUSE SPECIAL COMMITTEE ON OIL AND GAS****Offered:****Referred:****Sponsor(s): HOUSE RESOURCES COMMITTEE****A BILL****FOR AN ACT ENTITLED**

1 "An Act relating to regulation of certain natural gas exploration facilities for
2 purposes of preparation of discharge prevention and contingency plans and
3 compliance with financial responsibility requirements, and amending the duties of
4 the Alaska Oil and Gas Conservation Commission as they relate to natural gas
5 exploration activities; and providing for an effective date."

6 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

7 *** Section 1.** AS 31.05.030 is amended by adding a new subsection to read:

8 (i) When requested by a person proposing to explore for gas by drilling a well,
9 the commission may evaluate the likelihood that the well will penetrate a formation
10 containing oil. If the commission concludes with reasonable certainty that the well
11 will not penetrate a formation containing oil, the commission shall so certify.

12 *** Sec. 2.** AS 46.04.030(b) is amended to read:

13 (b) A person may not cause or permit the operation of a pipeline or [AN

1 EXPLORATION OR] production facility in the state or, except as provided in
2 AS 46.04.050(c), may not cause or permit the operation of an exploration facility
3 in the state unless an oil discharge prevention and contingency plan for the pipeline
4 or facility has been approved by the department and the person is in compliance with
5 the plan.

6 * Sec. 3. AS 46.04.030 is amended by adding a new subsection to read:

7 (s) If a well certified by the Alaska Oil and Gas Conservation Commission
8 under AS 31.05.030(i) penetrates a formation containing oil, the operator of the facility

9 (1) shall notify the department, the Alaska Oil and Gas Conservation
10 Commission, and all other appropriate state agencies; and

11 (2) may not conduct further exploration activity except in compliance
12 with an oil discharge prevention and contingency plan for the facility

13 (A) approved by the department; or

14 (B) pending the department's decision on plan approval.

15 * Sec. 4. AS 46.04.040(b) is amended to read:

16 (b) A person may not cause or permit the operation of a pipeline or [AN
17 EXPLORATION OR] production facility in the state or, except as provided in
18 AS 46.04.050(c) for a well that has not penetrated a formation containing oil, may
19 not cause or permit the operation of an exploration facility in the state unless the
20 person has furnished to the department, and the department has approved, proof of
21 financial ability to respond in damages. Proof of financial responsibility required for

22 (1) a pipeline or an offshore exploration or production facility is
23 \$50,000,000 per incident;

24 (2) an onshore production facility is

25 (A) \$20,000,000 per incident if the facility produces over
26 10,000 barrels per day of oil;

27 (B) \$10,000,000 per incident if the facility produces over 5,000
28 barrels per day but not more than 10,000 barrels per day of oil;

29 (C) \$5,000,000 per incident if the facility produces over 2,500
30 barrels per day but not more than 5,000 barrels per day of oil;

31 (D) \$1,000,000 per incident if the facility produces 2,500 barrels

1 per day or less of oil;

2 (3) an onshore exploration facility is \$1,000,000 per incident.

3 * Sec. 5. AS 46.04.040 is amended by adding a new subsection to read:

4 (n) If a well certified by the Alaska Oil and Gas Conservation Commission
5 under AS 31.05.030(i) penetrates a formation containing oil, the operator of the facility
6 may not conduct further exploration activity until the requirements of (b) of this
7 section are met.

8 * Sec. 6. AS 46.04.050 is amended by adding a new subsection to read:

9 (c) Except as provided in AS 46.04.030(s) and 46.04.040(n), the provisions of
10 AS 46.04.030(b) and 46.04.040(b) do not apply to the operation of an exploration
11 facility to the extent that it is used to explore for gas by means of drilling a well that
12 has been certified by the Alaska Oil and Gas Conservation Commission under
13 AS 31.05.030(i).

14 * Sec. 7. This Act takes effect immediately under AS 01.10.070(c).

9-LS1150F ✓
Chenoweth
5/4/95

CS FOR HOUSE BILL NO. 334()
IN THE LEGISLATURE OF THE STATE OF ALASKA
NINETEENTH LEGISLATURE - FIRST SESSION

BY

Offered:
Referred:

Sponsor(s): HOUSE RESOURCES COMMITTEE

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to regulation of certain natural gas exploration facilities for
2 purposes of preparation of discharge prevention and contingency plans and
3 compliance with financial responsibility requirements, and amending the duties of
4 the Alaska Oil and Gas Conservation Commission as they relate to natural gas
5 exploration activities; and providing for an effective date."

6 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

7 * Section 1. AS 31.05.030 is amended by adding a new subsection to read:

8 (i) When requested by a person preparing to explore for gas, the commission
9 may determine whether there is a reasonable expectation that the exploration activities
10 are directed to hydrocarbon formations containing oil. If the commission determines
11 that there is reasonable ^{Certainly} ~~probability~~ that the exploration activities are not directed to
12 formations containing oil, the commission shall so certify.

13 * Sec. 2. AS 46.04.030(b) is amended to read:

1 (b) A person may not cause or permit the operation of a pipeline or [AN
2 EXPLORATION OR] production facility in the state or, except as provided in (s) of
3 this section for a natural gas exploration facility for which a certificate has been
4 issued by the Alaska Oil and Gas Conservation Commission under
5 AS 31.05.030(i), may not cause or permit the operation of an exploration facility
6 in the state unless an oil discharge prevention and contingency plan for the pipeline
7 or facility has been approved by the department and the person is in compliance with
8 the plan.

9 * Sec. 3. AS 46.04.030 is amended by adding a new subsection to read:

10 (s) If the operator of a natural gas exploration facility, for which the Alaska
11 Oil and Gas Conservation Commission has certified under AS 31.05.030(i) that there
12 is reasonable probability that the activities of the exploration facility are not directed
13 to formations containing oil, encounters oil, the operator shall

14 (1) notify the oil spill response cooperative designated in the permit
15 issued by the Alaska Oil and Gas Conservation Commission and all other appropriate
16 state agencies; and

17 (2) submit to the department, within 15 days, an oil discharge
18 prevention and contingency plan and, when the plan has been approved, be in
19 compliance with the plan.

20 * Sec. 4. AS 46.04.040(b) is amended to read:

21 (b) A person may not cause or permit the operation of a pipeline or [AN
22 EXPLORATION OR] production facility in the state or, except as provided in (n) of
23 this section for a natural gas exploration facility for which a certificate has been
24 issued by the Alaska Oil and Gas Conservation Commission under
25 AS 31.05.030(i), may not cause or permit the operation of an exploration facility
26 in the state unless the person has furnished to the department, and the department has
27 approved, proof of financial ability to respond in damages. Proof of financial
28 responsibility required for

29 (1) a pipeline or an offshore exploration or production facility is
30 \$50,000,000 per incident;

31 (2) an onshore production facility is

(A) \$20,000,000 per incident if the facility produces over 10,000 barrels per day of oil;

(B) \$10,000,000 per incident if the facility produces over 5,000 barrels per day but not more than 10,000 barrels per day of oil;

(C) \$5,000,000 per incident if the facility produces over 2,500 barrels per day but not more than 5,000 barrels per day of oil;

(D) \$1,000,000 per incident if the facility produces 2,500 barrels per day or less of oil;

(3) an onshore exploration facility is \$1,000,000 per incident.

* Sec. 5. AS ~~46.04.040~~³¹ is amended by adding a new subsection to read:

(n) The operator of a natural gas exploration facility for which the Alaska Oil and Gas Conservation Commission certifies under AS 31.05.030(i) that the activities of the exploration facility are not directed to formations containing oil may not cause or permit the facility's operation unless the operator first obtains a surety bond in an amount that the Alaska Oil and Gas Conservation Commission may require to assure performance of surface oil clean up.

* Sec. 6. AS 46.04.050 is amended by adding a new subsection to read:

(c) AS 46.04.030^(b) and 46.04.040(b) do not apply to a natural gas exploration facility for which the Alaska Oil and Gas Conservation Commission certifies under AS 31.05.030(i) that there is reasonable probability that the activities of the exploration facility are not directed to formations containing oil.

* Sec. 7. This Act takes effect immediately under AS 01.10.070(c).

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Chenoweth

5/3/95

CS FOR HOUSE BILL NO. 334()

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - FIRST SESSION

BY

Offered:

Referred:

Sponsor(s): HOUSE RESOURCES COMMITTEE

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to regulation of certain natural gas exploration facilities for
2 purposes of preparation of discharge prevention and contingency plans and
3 compliance with financial responsibility requirements, and amending the duties of
4 the Alaska Oil and Gas Conservation Commission as they relate to natural gas
5 exploration activities; and providing for an effective date."

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12 formations containing oil, the commission shall so certify.

13 * Sec. 2. AS 46.04.030(b) is amended to read:

(b) A person may not cause or permit the operation of a pipeline or [AN EXPLORATION OR] production facility in the state or, except as provided in (s) of this section for a natural gas exploration facility for which a certificate has been issued by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i), may not cause or permit the operation of an exploration facility in the state unless an oil discharge prevention and contingency plan for the pipeline or facility has been approved by the department and the person is in compliance with the plan.

* Sec. 3. AS 46.04.030 is amended by adding a new subsection to read:

(s) If the operator of a natural gas exploration facility, for which the Alaska Oil and Gas Conservation Commission has certified under AS 31.05.030(i) that there is reasonable probability that the activities of the exploration facility are not directed to formations containing oil, encounters oil, the operator shall

(1) notify the oil spill response cooperative designated in the permit issued by the Alaska Oil and Gas Conservation Commission and all other appropriate state agencies; and

(2) submit to the department, within 15 days, an oil discharge prevention and contingency plan and, when the plan has been approved, be in compliance with the plan.

* Sec. 4. AS 46.04.040(b) is amended to read:

(b) A person may not cause or permit the operation of a pipeline or [AN EXPLORATION OR] production facility in the state or, except as provided in (n) of this section for a natural gas exploration facility for which a certificate has been issued by the Alaska Oil and Gas Conservation Commission under AS 31.05.030(i), may not cause or permit the operation of an exploration facility in the state unless the person has furnished to the department, and the department has approved, proof of financial ability to respond in damages. Proof of financial responsibility required for

(1) a pipeline or an offshore exploration or production facility is \$50,000,000 per incident;

(2) an onshore production facility is

(A) \$20,000,000 per incident if the facility produces over 10,000 barrels per day of oil;

(B) \$10,000,000 per incident if the facility produces over 5,000 barrels per day but not more than 10,000 barrels per day of oil;

(C) \$5,000,000 per incident if the facility produces over 2,500 barrels per day but not more than 5,000 barrels per day of oil;

(D) \$1,000,000 per incident if the facility produces 2,500 barrels per day or less of oil;

(3) an onshore exploration facility is \$1,000,000 per incident.

* Sec. 5. AS 46.04.040 is amended by adding a new subsection to read:

(n) The operator of a natural gas exploration facility for which the Alaska Oil and Gas Conservation Commission certifies under AS 31.05.030(i) that the activities of the exploration facility are not directed to formations containing oil may not cause or permit the facility's operation unless the operator first obtains a surety bond with oil rider in an amount that the Alaska Oil and Gas Conservation Commission may require to assure surface clean up of oil encountered in the exploratory drilling process.

* Sec. 6. AS 46.04.050 is amended by adding a new subsection to read:

(c) AS 46.04.030(a) and 46.04.040(b) do not apply to a natural gas exploration facility for which the Alaska Oil and Gas Conservation Commission certifies under AS 31.05.030(i) that there is reasonable probability that the activities of the exploration facility are not directed to formations containing oil.

* Sec. 7. This Act takes effect immediately under AS 01.10.070(c).

SCOMM

96:13

FISCAL NOTE

Correction of 2/7/96 Version

STATE OF ALASKA

BILL NO.

HB342**1996 LEGISLATIVE SESSION**

Revision Date:

Title: An Act relating to Water Quality

Department Affected:

Environmental
Conservation

Sponsor:

Rep. Rokeberg

BRU:

Environmental Quality

Requestor:

Component: Water Quality**COMPONENT SERIAL NO.**

Expenditures/Revenues:

(Thousands of Dollars)

	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
OPERATING EXPENDITURES						
PERSONAL SERVICES	46.7	0.0	0.0	0.0	0.0	0.0
TRAVEL	2.0	0.0	0.0	0.0	0.0	0.0
CONTRACTUAL	1.9	0.0	0.0	0.0	0.0	0.0
SUPPLIES	0.5	0.0	0.0	0.0	0.0	0.0
EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0
LAND&STRUCTURES	0.0	0.0	0.0	0.0	0.0	0.0
GRANTS,CLAIMS	0.0	0.0	0.0	0.0	0.0	0.0
MISCELLANEOUS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	51.1	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
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CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0
-------------------------------	-----	-----	-----	-----	-----	-----

FUND SOURCE

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	51.1	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipt	0.0	0.0	0.0	0.0	0.0	0.0
1006 GF/MHTIA	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	51.1	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY96) cost: \$ 0.0**POSITIONS:**

FULL-TIME	0.5	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary.)

The bill will require the Department to revise the Wastewater Regulations and the Water Quality Standards regulations. It is estimated that this process will take a total of 0.5 FTE of staff time plus expenses for public notice, hearing and mailings

Prepared by: Deena J. Henkins/Len Verrelli, Director

Division: Air & Water QualityPhone: 465-5060Date: 2/21/96Approved by Commissioner: [Signature]Agency: Department of Environmental ConservationDate: 2/22/96**PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE**

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Page 1 of 1

FISCAL NOTE

STATE OF ALASKA
1995 LEGISLATIVE SESSION

BILL NO.

HB342

Revision Date:

Title: An Act relating to Water Quality

Department Affected:

Environmental
Conservation

Sponsor:

Rep. Rokeburg

BRU:

Environmental Quality

Requestor:

Component:

Water Quality

COMPONENT SERIAL NO.

Expenditures/Revenues:

(Thousands of Dollars)

OPERATING EXPENDITURES	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
PERSONAL SERVICES	0.0	46.7	0.0	0.0	0.0	0.0
TRAVEL	0.0	2.0	0.0	0.0	0.0	0.0
CONTRACTUAL	0.0	1.9	0.0	0.0	0.0	0.0
SUPPLIES	0.0	0.5	0.0	0.0	0.0	0.0
EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0
LAND&STRUCTURES	0.0	0.0	0.0	0.0	0.0	0.0
GRANTS, CLAIMS	0.0	0.0	0.0	0.0	0.0	0.0
MISCELLANEOUS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	51.1	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
----------------------	-----	-----	-----	-----	-----	-----

CHANGE IN REVENUES ()	0.0	0.0	0.0	0.0	0.0	0.0
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FUND SOURCE

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	51.1	0.0	0.0	0.0	0.0
1005 GF/Program Receipt	0.0	0.0	0.0	0.0	0.0	0.0
1006 GF/MHTIA	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY95) cost: \$

0.0

POSITIONS:

FULL-TIME	0	0.5	0	0	0	0
PART-TIME	0	0.0	0	0	0	0
TEMPORARY	0	0.0	0	0	0	0

ANALYSIS: (Attach a separate page if necessary.)

The bill will require the department to revise the Wastewater Regulations and the Water Quality Standards Regulations. It is estimated that this process will take a total of 0.5 FTE of staff time plus expenses for public notice, hearing and mailings.

Prepared by: Deena Henkins

Division: Air & Water Quality

Phone: 465-5312

Date: 2/7/96

Approved by Commissioner:

Agency: Department of Environmental Conservation

Date:

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Page 1 of 1

HB 342
ANALYSIS OF BILL/PROGRAM EFFECTS

CONFUSION OF TERMS

The language of the bill is confusing and difficult to interpret because the author has incorrectly used the terms for water quality criteria, water quality standards and effluent limits. The bill refers to limiting discharge water quality standards when it appears to be referring to effluent limits. The bill would have an indirect effect on state Water Quality Standards since they apply to receiving water quality.

SETTLEABLE SOLIDS vs SUSPENDED SOLIDS

Language in Sec. 46.03.085(a) of the bill would require the use of the settleable solids method of measuring sediment if an effluent limit for sediment was established in a permit. The "volumetric Imhoff Cone method" is a reference to one method for measuring settleable solids.

The passage of HB 342 would not allow suspended solids to be used as a measurement for sediment, and thus would require the Department to revise the definition of "secondary treatment" in the Wastewater Regulations. Typically, the efficiency of sewage treatment processes is defined in terms of BOD (biochemical oxygen demand) and suspended solids, and the definition of secondary treatment in 18 AAC 72.990 references the use of suspended solids. The section in the Wastewater Regulations on Minimum Treatment, 18 AAC 72.040, would also have to be revised because it refers in several places to suspended solids.

Since the bill would only allow the measurement of settleable solids, the language in the Water Quality Standards would have to reflect this limitation. This bill uses the term "sediment"; a recent State Superior Court ruled that the term sediment includes suspended solids. The Department revised the Water Quality Standards in January 1995 to clarify that the existing criteria for sediment is limited to settleable solids, but has also agreed to study the need for a total suspended solids (TSS) criteria. Passage of this bill would prohibit future criteria from being developed for total suspended solids and adopted into the Water Quality Standards. Until the TSS study is completed, the need for TSS criteria is unknown.

The bill's intention to allow measurement of sediment only in terms of settleable solids does not recognize the legitimate application of other measurements of sediment. The efficiency of some treatment processes such as classical sewage treatment are historically described in terms of suspended solids. Any biological treatment process with clarifiers or filters also typically lends itself to being described in terms of suspended solids whether sewage or industrial wastewater is being treated. The Clean Water Act defines secondary treatment in terms of suspended solids, and describes secondary treatment waivers in terms of suspended solids also.

Numerous EPA effluent guideline regulations (i.e. effluent limits) characterize wastewater in terms of suspended solids, like mining wastewater discharges from hardrock gold mines that use froth floatation processes.

In the case of sewage treatment plant discharges or other discharges subject to an EPA effluent limitation incorporating suspended solids, it will not be beneficial to the discharger to forbid the state to impose a suspended solids effluent limit. The federal law and regulations will still apply.

RELATIVE STRICTNESS OF STANDARDS

Subsection (b) of the bill is difficult to interpret because of the incorrect use of terminology. Subsection (b)(2) and (3) appears to say that the Department cannot apply an effluent limit that is more restrictive than federal water quality standards. The language also suggests that the effluent limit can not be more strict than the quality of the intake water, although it may also be interpreted to mean the upstream water or receiving water.

It is unclear what the intent of Sec. 46.03.085(b)(1) is. The term "discharge standard" appears to refer to effluent limits, but it is not clear how the term relates to water quality criteria or standards. Subsection (b)(2) is also confusing since effluent limits do not correlate with exceedence of federal water quality standards. It is possible that an effluent limit might be more strict than the related water quality criteria in order to ensure that criteria in the receiving water will be met.

The state needs the flexibility to require effluent limits more strict than the receiving water quality if the receiving water quality has been degraded by other dischargers and more stringent limits are needed to protect water uses. The existing quality of a water should not be interpreted to represent the desirable quality in all cases.

If the receiving water quality is naturally above applicable water quality criteria, that is another issue entirely. In that case the Department typically will allow a discharge up to natural background.

If the discharger must meet an EPA effluent guideline regulation that requires a more stringent discharge quality than the natural or existing receiving water quality, the Department is very limited in its ability to affect the situation. Changes in the state law proposed by HB 342 will not assist the discharger for this kind of circumstance, since the federal regulation would still apply.

The Department has the flexibility in existing statutes and regulations to deal with situations where the natural quality of the receiving water is above applicable receiving water quality. If the receiving water quality is naturally above applicable water quality criteria, and

EPA is not constrained by an effluent guideline regulation that requires a more stringent discharge quality than the natural receiving water quality, the Department may be able to allow a discharge up to background or the Department may be able to consider writing site specific criteria that will reflect the natural quality.

STATE ASSUMPTION OF N.P.D.E.S. PROGRAM

There has been some interest expressed by the Commissioner's Office at DEC to assume the NPDES permitting program, since it appears the Department could implement the program with more flexibility than the EPA is willing to use. If the language in HB 342 were included in the DEC statutes, the Department would not be able to assume the NPDES program, since it would prohibit application of EPA effluent limitation guidelines for suspended solids effluent limits, as well as effluent limits which may require that a discharge be of higher quality than the receiving water.

STATE OF ALASKA
OFFICE OF THE GOVERNOR
BILL ANALYSIS

DEPARTMENT Environmental Conservation	DIVISION Air & Water Quality	BILL NUMBER HB 342	SPONSOR Rep. Rokeberg
SHORT TITLE OF BILL An Act relating to water quality			
DEPARTMENT POSITION The department opposes the bill because the intent of the proposed language is confusing and difficult to interpret. As written, it would prevent the department from having the ability to clean up polluted waters; it would also prevent state assumption of the federal National Pollutant Discharge Elimination System (NPDES) permit program.			
PREPARED BY Deena Henkin <i>Susan Braley</i>	DATE 2/17/96	COMMISSIONER'S SIGNATURE <i>[Signature]</i>	DATE 2/16/96

SUMMARY

OTHER AGENCIES AFFECTED BY BILL ADF&G ADNR	CONSTITUENT GROUP(S) AFFECTED BY BILL Wastewater dischargers Environmental Groups
ORGANIZATIONAL SUPPORT FOR BILL Unknown	ORGANIZATIONAL OPPOSITION TO BILL Unknown

FISCAL IMPACT: \$51.0 X FISCAL NOTE ATTACHED

BACKGROUND/LEGISLATIVE INTENT

The Bill would not allow stricter wastewater effluent limits than the quality of the water received for the use. It would require the department to write wastewater effluent limits for sediment in terms of settleable solids only; it would not allow effluent limits stricter than federal water quality standards.

ANALYSIS OF BILL/PROGRAM EFFECTS

See attached.

Post-It™ brand fax transmittal memo 7871		# of pages > 5
To <i>Transmont</i>	From	
Co. <i>Rep. Rokeberg</i>	Co.	
Dept.	Phone #	
Fax # 2640	Fax #	

AMENDMENTS PROPOSED

None at this time

PLEASE ATTACH SEPARATE SHEET FOR ADDITIONAL COMMENTS OR ANALYSIS

FISCAL NOTE

STATE OF ALASKA
1996 LEGISLATIVE SESSION

BILL NO. HB 342

Revision Date: _____ Dept. Affected: Fish and Game
Title: An Act relating to water. BRU: Habitat and Restoration
Sponsor: Rokeberg Component: Habitat
Requester: House Special Committee Oil & Gas, Resources COMPONENT SERIAL NO. 486

Expenditures/Revenues

(Thousands of Dollars)

OPERATING EXPENDITURES	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
PERSONAL SERVICES	150.0	150.0	150.0	150.0	150.0	150.0
TRAVEL	15.0	15.0	15.0	15.0	15.0	15.0
CONTRACTUAL	5.0	5.0	5.0	5.0	5.0	5.0
SUPPLIES	5.0	5.0	5.0	5.0	5.0	5.0
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	175.0	175.0	175.0	175.0	175.0	175.0

CAPITAL EXPENDITURES						
----------------------	--	--	--	--	--	--

CHANGE IN REVENUES ()						
------------------------	--	--	--	--	--	--

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY96) cost: \$ 0.0

POSITIONS

FULL-TIME	2	2	2	2	2	2
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

Additional expenditures stem from the increased workload that will occur as the department is required to substantially increase the scope, substance, and specificity of its AS 16.05.840, 16.05.870, and 16.20 permit application reviews, and to significantly increase the number of field inspections in lieu of its current reliance on state water quality standards and the Department of Environmental Conservations wastewater discharge permitting program for ensuring adequate water quality and habitat for fish and wildlife

Prepared by: Janet Kowalski
Division: Habitat and Restoration
Approved by Commissioner: Cecilia Bruce for
Agency: Fish and Game

Phone: 465-4105
Date: 10/16/95
Date: 10/16/95

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ALASKA
WATER QUALITY STANDARDS
18 AAC 70



ALASKA
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

January 4, 1995

This document presents the Alaska Water Quality Standards (18 AAC 70), as amended by revisions that became effective on January 4, 1995.

**Alaska Department of Environmental Conservation
Water Quality Management Section
410 Willoughby Avenue
Juneau, Alaska 99801
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TABLE OF CONTENTS

18 AAC 70.010. GENERAL	1
18 AAC 70.015. SHORT-TERM VARIANCE	4
18 AAC 70.020. PROTECTED WATER USE CLASSES; WATER QUALITY CRITERIA; AND WATER QUALITY STANDARDS TABLE	4
18 AAC 70.022. HUMAN HEALTH RISK LEVEL FOR CARCINOGENIC SUBSTANCES	26
18 AAC 70.023. WHOLE EFFLUENT TOXICITY LIMIT	26
18 AAC 70.025. SITE-SPECIFIC CRITERIA	27
18 AAC 70.030. PROCEDURE FOR APPLYING WATER QUALITY CRITERIA	28
18 AAC 70.032. MIXING ZONES	28
18 AAC 70.033. ZONES OF DEPOSIT	32
18 AAC 70.034. THERMAL DISCHARGES	33
18 AAC 70.050. CLASSIFICATION OF STATE WATERS	33
18 AAC 70.055. PROCEDURE FOR RECLASSIFICATION	37
8 AAC 70.086. ENFORCEMENT DISCRETION	38
18 AAC 70.990. DEFINITIONS	39
ALASKA STATUTES	47

CHAPTER 70. WATER QUALITY STANDARDS**Section**

- 10. General
- 15. Short-term variance
- 20. Protected water use classes; water quality criteria; water quality standards table
- 22. Human health risk level for carcinogenic substances
- 23. Whole effluent toxicity limit
- 25. Site-specific criteria
- 30. Procedure for applying water quality criteria
- 32. Mixing zones
- 33. Zones of deposit
- 34. Thermal discharges
- 40. (Repealed and consolidated)
- 50. Classification of state waters
- 55. Procedure for reclassification
- 58. (Repealed)
- 60. (Repealed)
- 70. (Repealed and consolidated)
- 80. (Repealed and consolidated)
- 81. (Repealed)
- 82. (Repealed)
- 83. (Repealed)
- 84. (Repealed)
- 85. (Repealed)
- 86. Enforcement discretion
- 90. (Consolidated)
- 100. (Repealed)
- 110. (Repealed)
- 990. Definitions

18 AAC 70.010. GENERAL. (a) No person may conduct an operation that causes or contributes to a violation of the water quality standards set by this chapter.

(b) The water quality standards set by this chapter specify the degree of degradation that may not be exceeded in a water body as a result of human actions. The water quality standards are set by the antidegradation requirement of (c) of this section, and the water quality criteria of 18 AAC 70.020(b), applied in accordance with the remainder of this chapter.

(c) Water with natural characteristics of higher quality than the water quality criteria for the use classes set out in 18 AAC 70.020 must be kept at the existing quality, unless an applicant for a permit issued or certified under 18 AAC 15, an applicant for a short-term variance issued under 18 AAC 70.015, or a petitioner for a reclassification under 18 AAC 70.055 shows to the department's satisfaction that

(1) reducing water quality is justified because of necessary economic or social development;

(2) except as allowed under 18 AAC 70.015, 18 AAC 70.032, or 18 AAC 70.033, reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.025, or otherwise harm present or potential uses of the water; and

(3) all wastes and other substances to be discharged will be treated using the methods found by the department to be most effective.

(d) A person may not discharge or cause the discharge of any waste or substance into a water without first treating and controlling the discharge to ensure that the quality of the receiving water meets the standards set by this chapter.

(e) Repealed 1/7/87.

(f) Except as provided in (g) and (h) of this section, and as specified in an authorization issued under 18 AAC 15, 18 AAC 60, or 18 AAC 72, the water quality standards and limits set by or under this chapter do not apply to

(1) a constructed treatment works that is authorized by the department in a permit, approval, or certification, and that is

(A) not located in either a water of the state or a water of the United States; or

(B) located in a water of the state but not in a water of the United States; or

(2) a treatment works that is a natural pond, that is authorized by the department under 18 AAC 60 or 18 AAC 72 to receive domestic sewage, and that is a water of the state but not a water of the United States.

(g) In addition to meeting the applicable requirements of 18 AAC 15, 18 AAC 60, or 18 AAC 72, an applicant for a department authorization under one of those chapters for a treatment works described in (f) of this section shall provide to the department evidence that reasonably demonstrates that the proposed treatment works will comply with the requirements of this subsection. The burden of proof for demonstrating compliance with the requirements of this subsection rests with the applicant. The department will, in a timely manner, request and review for completeness, information submitted under this subsection. The owner or operator of a treatment works authorized by the department shall ensure that the treatment works meets the following requirements:

(1) the water quality criteria and limits set by or under this chapter must be met in adjacent surface water and groundwater at and beyond the boundary of the treatment works;

(2) the methods of pollution prevention, control, and treatment found by the department to be the most effective and reasonable to meet the requirements of this section must be applied to wastes and other substances discharged to and contained in the treatment works;

(3) the treatment works must be as small as practicable to meet the legitimate project needs; and

(4) the treatment works must be constructed and operated so that it will not present an excessive hazard to wildlife within the boundaries of the treatment works and so that it will comply with all applicable public health and environmental standards enforced by the department; the owner or operator may meet the requirements of this paragraph through the use of lining, fencing or another means of preventing access; pretreatment; or another control measure or combination of measures approved by the department.

(h) The department will, in its discretion, authorize a treatment works in a permit, approval, or certification issued under 18 AAC 15, 18 AAC 60, or 18 AAC 72 only after making a site-specific determination that the treatment works will comply with the requirements of (g) of this section. In determining whether to authorize a treatment works, the department also will consider

(1) geologic, hydrologic, meteorologic, and ecological conditions at the site;

(2) adverse effects on designated uses of a water caused by construction and operation of the treatment works;

(3) alternative locations for a treatment works proposed to be located in a natural water; and

(4) reasonable alternative methods for preventing, controlling, treating, and disposing of the wastes or other substances to be discharged to and contained in the treatment works. (In effect before 7/28/59; am 5/24/70, Register 34; am 8/28/71, Register 39; am 10/22/72, Register 44; am 2/2/79, Register 69; am 12/19/82, Register 84; am 3/30/84, Register 89; am 1/7/87, Register 100; am 1/4/95, Register 133)

Authority: AS 46.03.010
AS 46.03.020
AS 46.03.050
AS 46.03.070
AS 46.03.080
AS 46.03.090
AS 46.03.100
AS 46.03.110
AS 46.03.720

18 AAC 70.015. SHORT-TERM VARIANCE. (a) In its discretion, the department will grant a short-term variance from the antidegradation requirement of 18 AAC 70.010(c) or the water quality criteria of 18 AAC 70.020(b) for a one-time, temporary activity that is a nonpoint source of water pollution, and for a temporary activity associated with the placement of dredged or fill material affecting a specific water body. A short-term variance will be granted only if an applicant shows to the department's satisfaction that

(1) wastes or substances that might adversely affect water quality are controlled, using methods found by the department to be most effective;

(2) the activity will be conducted in a manner to mitigate water quality impacts, using methods found by the department to be most effective; and

(3) the activity, when completed, will not cause a long-term, chronic, or recurring violation of the water quality standards.

(b) The department will, in its discretion, grant a short-term variance by geographic area or project, or for a specific, individual event. The term of a variance will be as short as practicable, and will, at the latest, expire upon completion of the project.

(c) A person seeking a short-term variance shall submit a written request and proceed in accordance with 18 AAC 15.020 - 18 AAC 15.100. The request must state the location, time, duration, and type of activity for which the variance is sought; reasons why the activity is required; the areal extent and quantified degree of variance from the applicable criteria; detailed construction and operating plans, including water pollution control and mitigation measures; and an estimate of the activity's impact on the uses of the water involved, including recreation and use for habitat, rearing, growth, or migration by fish, shellfish, other aquatic life, and wildlife. In its discretion, the department will treat an application for a permit under Sec. 404 of the Clean Water Act as an application for a short-term variance. (Eff. 2/2/79, Register 69; am 4/23/79, Register 70; am 9/19/79, Register 71; am 1/7/87, Register 100)

Authority: AS 46.03.010
AS 46.03.070
AS 46.03.080

18 AAC 70.020. PROTECTED WATER USE CLASSES; WATER QUALITY CRITERIA; AND WATER QUALITY STANDARDS TABLE. (a) Classes of use of the state's water protected by criteria set out under (b) of this section are

(1) Fresh water

(A) Water supply

(i) drinking, culinary, and food processing,

(ii) agriculture, including irrigation and stock watering,

(iii) aquaculture,

- (iv) industrial;
- (B) Water recreation
 - (i) contact recreation,
 - (ii) secondary recreation;
- (C) Growth and propagation of fish, shellfish, other aquatic life, and wildlife; and

(2) Marine water

- (A) Water supply
 - (i) aquaculture,
 - (ii) seafood processing,
 - (iii) industrial;
- (B) Water recreation
 - (i) contact recreation,
 - (ii) secondary recreation;
- (C) Growth and propagation of fish, shellfish, other aquatic life, and wildlife; and
- (D) Harvesting for consumption of raw mollusks or other raw aquatic life.

(b) Except as modified by or under 18 AAC 70.025 or 18 AAC 70.034, the water quality criteria set out in the following table, in combination with the classes of water use set out in the following table, constitute the water quality standards for a particular waterbody; the water quality standards regulate human activities that result in alterations to waters within the state's jurisdiction:

(1) FRESH WATER USES	FECAL COLIFORM BACTERIA (FC) (See Note 1)	DISSOLVED GAS
(A) Water Supply (i) drinking, culinary, and food processing	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 20 FC/100 ml, and not more than 10% of the samples may exceed 40 FC/100 ml. For groundwater, the FC concentration must be less than 1 FC/100 ml, using the fecal coliform Membrane Filter Technique, or less than 3 FC/100 ml, using the fecal coliform most probable number (MPN) technique.	Dissolved oxygen (D.O.) must be greater than or equal to 4 mg/l (this does not apply to lakes or reservoirs in which supplies are taken from below the thermocline, or to groundwater).
(A) Water Supply (ii) agriculture, including irrigation and stock watering	For products normally cooked and for dairy sanitation of pasteurized products, the mean, based on a minimum of 5 samples taken in a 30-day period, may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml. For products not normally cooked and for dairy sanitation of unpasteurized products, the criteria for drinking water supply, (1)(A)(i), apply.	D.O. must be greater than 3 mg/l in surface waters.
(A) Water Supply (iii) aquaculture	For products normally cooked, the mean, based on a minimum of 5 samples taken in a 30-day period, may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml. For products not normally cooked, the criteria for drinking water supply, (1)(A)(i), apply.	D.O. must be greater than 7 mg/l in surface waters. The concentration of D.O. may not exceed 110% of saturation at any point of sample collection.
(A) Water Supply (iv) industrial	Where worker contact is present, the mean, based upon a minimum of 5 samples taken in a 30-day period, may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml.	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 100 FC/100 ml, and not more than one sample, or more than 10% of the samples if there are more than 10 samples, may exceed 200 FC/100 ml.	D.O. must be greater than or equal to 4 mg/l.
(B) Water Recreation (ii) secondary recreation	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 200 FC/100 ml, and not more than 10% of the total samples may exceed 400 FC/100 ml.	Same as (1)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Not applicable.	D.O. must be greater than 7 mg/l in waters used by anadromous and resident fish. In no case may D.O. be less than 5 mg/l to a depth of 20 cm in the interstitial waters of gravel used by anadromous or resident fish for spawning (See Note 2). For waters not used by anadromous or resident fish, D.O. must be greater than or equal to 5 mg/l. In no case may D.O. be greater than 17 mg/l. The concentration of D.O. may not exceed 110% of saturation at any point of sample collection.

(1) FRESH WATER USES	PH (Variation of pH for waters naturally outside the specified range must be toward the range)	TURBIDITY (not applicable to groundwater)
(A) Water Supply (i) drinking, culinary, and food processing	May not be less than 6.0 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.	May not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not be less than 5.0 or greater than 9.0; for dairy sanitation, pH may not be less than 6.8 or greater than 8.5.	May not cause detrimental effects on indicated use.
(A) Water Supply (iii) aquaculture	May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions.	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.
(A) Water Supply (iv) industrial	May not be less than 5.0 or greater than 9.0.	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	May not be less than 6.5 or greater than 8.5. May not vary more than 0.5 pH unit from natural conditions. If the natural condition pH is outside this range, substances may not be added that cause an increase in the buffering capacity of the water.	May not exceed 5 NTU above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. May not exceed 5 NTU above natural turbidity for all lake waters.
(B) Water Recreation (ii) secondary recreation	Same as (1)(A)(iv).	May not exceed 10 NTU above natural conditions when natural turbidity is 50 NTU or less, and may not have more than 20% increase in turbidity when the natural turbidity is greater than 50 NTU, not to exceed a maximum increase of 15 NTU. For all lake waters, turbidity may not exceed 5 NTU above natural turbidity.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not be less than 6.5 or greater than 9.0. May not vary more than 0.5 pH unit from natural conditions.	Same as (1)(A)(iii).

(1) FRESH WATER USES	TEMPERATURE	DISSOLVED INORGANIC SUBSTANCES
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 15°C.	Total Dissolved Solids (TDS) from all sources may not exceed 500 mg/l. Neither chlorides nor sulfates may exceed 200 mg/l.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not exceed 30°C.	TDS may not exceed 1,000 mg/l. Sodium absorption ratio must be less than 2.5, sodium percentage less than 60%, residual carbonate less than 1.25 mg/l, and boron less than 0.3 mg/l. (See Note 6).
(A) Water Supply (iii) aquaculture	May not exceed 20°C at any time. The following maximum temperatures may not be exceeded, where applicable: Migration routes 15°C Spawning areas 13°C Rearing areas 15°C Egg & fry incubation 13°C For all other waters, the weekly average temperature may not exceed site-specific requirements needed to preserve normal species diversity or to prevent appearance of nuisance organisms.	TDS may not exceed 1,500 mg/l, including natural conditions. Increase in TDS may not exceed one-third of the concentration of the natural condition of the waterbody.
(A) Water Supply (iv) industrial	May not exceed 25°C.	No amounts above natural conditions that can cause corrosion, scaling, or process problems.
(B) Water Recreation (i) contact recreation	Same as (1)(A)(ii).	Not applicable.
(B) Water Recreation (ii) secondary recreation	Not applicable.	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (1)(A)(iii).	Same as (1)(A)(iii).

(1) FRESH WATER USES	SEDIMENT (Not applicable to groundwater)	TOXIC AND OTHER DELETERIOUS ORGANIC AND INORGANIC SUBSTANCES
(A) Water Supply (i) drinking, culinary, and food processing	No measurable increase in concentration of settleable solids above natural conditions, as measured by the volumetric Imhoff cone method (See Note 15).	Substances may not exceed Alaska Drinking Water Standards (18 AAC 80) or, where those standards do not exist, EPA <i>Quality Criteria for Water</i> (See Note 5).
(A) Water Supply (ii) agriculture, including irrigation and stock watering	For sprinkler irrigation, water must be free of particles of 0.074 mm or coarser. For irrigation or water spreading, may not exceed 200 mg/l for an extended period of time.	Same as (1)(A)(i) where contact with a product destined for human consumption is present. Same as (1)(C) or Federal Water Pollution Control Administration, <i>Water Quality Criteria (WQC/FWPCA)</i> , as applicable to substances for stockwaters; concentrations for irrigation waters may not exceed WQC/FWPCA or WQC 1972 (See Notes 6 and 7).
(A) Water Supply (iii) aquaculture	No imposed loads that will interfere with established water supply treatment levels.	Same as (1)(C).
(A) Water Supply (iv) industrial	Same as (1)(A)(iii).	Substances that pose hazards to worker contact may not be present.
(B) Water Recreation (i) contact recreation	Same as (1)(A)(i).	Same as (1)(A)(i).
(B) Water Recreation (ii) secondary recreation	May not pose hazards to incidental human contact or cause interference with the use.	Substances that pose hazards to incidental human contact may not be present.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	The percent accumulation of fine sediment in the range of 0.1 mm to 4.0 mm in the gravel bed of waters used by anadromous or resident fish for spawning may not be increased more than 5% by weight above natural conditions (as shown from grain size accumulation graph). In no case may the 0.1 mm to 4.0 mm fine sediment range in those gravel beds exceed a maximum of 30% by weight (as shown from grain size accumulation graph). (See Notes 3 and 4). In all other surface waters no sediment loads (suspended or deposited) that can cause adverse effects on aquatic animal or plant life, their reproduction or habitat may be present.	Individual substances may not exceed criteria in EPA, <i>Quality Criteria for Water</i> (See Note 5) or, if those criteria do not exist, may not exceed the Primary Maximum Contaminant Levels of the Alaska Drinking Water Standards (18 AAC 80). If those criteria are absent, or if the department finds that the criteria are not appropriate for sensitive resident Alaskan species, the department will, in its discretion, establish in regulation chronic and acute criteria to protect sensitive and biologically important life stages of resident Alaskan species, using methods approved by EPA or alternate methods approved by the department. There may be no concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, toxic effects on aquatic life, except as authorized by this chapter. Substances may not be present in concentrations that individually or in combination impart undesirable odor or taste to fish or other aquatic organisms, as determined by either bioassay or organoleptic tests (See Note 5).

(1) FRESH WATER USES	COLOR (See Note 11)	PETROLEUM HYDROCARBONS, OILS AND GREASE
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 15 color units or the natural condition, whichever is greater.	May not cause a visible sheen upon the surface of the water. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	Not applicable.	May not cause a visible sheen upon the surface of the water.
(A) Water Supply (iii) aquaculture	May not exceed 50 color units or the natural condition, whichever is greater.	Total aqueous hydrocarbons (TAqH) in the water column may not exceed 15 $\mu\text{g/l}$ (See Note 8). Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 $\mu\text{g/l}$ (See Note 8). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.	May not make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	Same as (1)(A)(i).	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils.
(B) Water Recreation (ii) secondary recreation	May not interfere with or make the water unfit or unsafe for the use.	Same as (1)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life. For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition, whichever is greater.	Same as (1)(A)(iii).

(1) FRESH WATER USE	RADIOACTIVITY	TOTAL RESIDUAL CHLORINE
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed the concentrations specified in the Alaska Drinking Water Standards (18 AAC 80) and may not exceed limits specified in 10 C.F.R. 20 (See Note 12) and National Bureau of Standards, Handbook 69 (See Note 13).	Not applicable.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	Same as (1)(A)(i).	Not applicable.
(A) Water Supply (iii) aquaculture	Same as (1)(A)(i) except that concentration factors for organisms involved may not exceed maximum permissible limits for specific radioisotopes and unidentified mixtures as established by 10 C.F.R. 20 (See Note 12) and National Bureau of Standards, Handbook 69 (See Note 13).	May not exceed 2.0 $\mu\text{g/l}$ for salmonid fish or 10.0 $\mu\text{g/l}$ for other organisms.
(A) Water Supply (iv) industrial	Same as (1)(A)(i).	Not applicable.
(B) Water Recreation (i) contact recreation	Same as (1)(A)(i).	Not applicable.
(B) Water Recreation (ii) secondary recreation	Same as (1)(A)(i).	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (1)(A)(iii).	Same as (1)(A)(iii).

(1) FRESH WATER USES	RESIDUES Floating Solids, Debris, Sludge, Deposits, Foam, Scum, or Other Residues (not applicable to groundwater)
(A) Water Supply (i) drinking, culinary, and food processing	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines, cause leaching of toxic or deleterious substances, or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not be present in quantities to cause soil plugging or reduced crop yield, or to make the water unfit or unsafe for the use.
(A) Water Supply (iii) aquaculture	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use.
(A) Water Supply (iv) industrial	Same as (1)(A)(iii).
(B) Water Recreation (i) contact recreation	Same as (1)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (1)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, or cause acute or chronic problem levels as determined by bioassay or other appropriate methods. May not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines, or cause leaching of toxic or deleterious substances, or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

(2) MARINE WATER USES	FECAL COLIFORM BACTERIA (FC) (See Note 1)	DISSOLVED GAS
(A) Water Supply (i) aquaculture	For products normally cooked, the mean, based on a minimum of 5 samples taken in a 30-day period, may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml. For products not normally cooked, the mean, based on a minimum of 5 samples taken in a 30-day period may not exceed 20 FC/100 ml, and not more than 10% of the samples may exceed 40 FC/100 ml.	Surface dissolved oxygen (D.O.) concentration in coastal water may not be less than 6.0 mg/l for a depth of one meter except when natural conditions cause this value to be depressed. D.O. may not be reduced below 4 mg/l at any point beneath the surface. D.O. concentrations in estuaries and tidal tributaries may not be less than 5.0 mg/l except where natural conditions cause this value to be depressed. In no case may D.O. levels exceed 17 mg/l. The concentration of D.O. may not exceed 110% of saturation at any point of sample collection.
(A) Water Supply (ii) seafood processing	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 20 FC/100 ml, and not more than 10% of the samples may exceed 40 FC/100 ml.	D.O. must be greater than or equal to 5 mg/l.
(A) Water Supply (iii) industrial	Where worker contact is present, the mean, based on a minimum of 5 samples taken in a 30-day period, may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml.	Not applicable.
(B) Water Recreation (i) contact recreation	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 100 FC/100 ml, and not more than one sample, or more than 10% of the samples if there are more than 10 samples, may exceed 200 FC/100 ml.	Same as (2)(A)(i).
(B) Water Recreation (ii) secondary recreation	Based on a minimum of 5 samples taken in a 30-day period, the mean may not exceed 200 FC/100 ml, and not more than 10% of the samples may exceed 400 FC/100 ml.	Same as (2)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Not applicable.	Same as (2)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Based on a 5-tube decimal dilution test, the fecal coliform median MPN may not exceed 14 FC/100 ml, and not more than 10% of the samples may exceed a fecal coliform median MPN of 43 FC/100 ml (See Note 14).	Same as (2)(A)(i).

(2) MARINE WATER USES	pH (Variation of pH for waters naturally outside the specified range must be toward the range)	TURBIDITY
(A) Water Supply (i) aquaculture	May not be less than 6.5 or greater than 8.5, and may not vary more than 0.1 pH unit from natural conditions.	May not exceed 25 nephelometric turbidity units (NTU).
(A) Water Supply (ii) seafood processing	May not be less than 6.0 or greater than 8.5, and may not vary more than 0.5 pH unit from natural conditions.	May not interfere with disinfection.
(A) Water Supply (iii) industrial	May not be less than 5.0 or greater than 9.0.	May not cause detrimental effects on established levels of water supply treatment.
(B) Water Recreation (i) contact recreation	May not be less than 6.5 or greater than 8.5. If the natural pH condition is outside this range, substances may not be added that cause any increase in buffering capacity of the water.	Same as (2)(A)(i).
(B) Water Recreation (ii) secondary recreation	Same as (2)(A)(iii).	Same as (2)(A)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (2)(A)(i).	May not reduce the depth of the compensation point for photosynthetic activity by more than 10%. May not reduce the maximum secchi disk depth by more than 10%.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (2)(A)(ii).	Same as (2)(C).

(2) MARINE WATER USES	TEMPERATURE	DISSOLVED INORGANIC SUBSTANCES								
(A) Water Supply (i) aquaculture	May not cause the weekly average temperature to increase more than 1°C. The maximum rate of change may not exceed 0.5°C per hour. Normal daily temperature cycles may not be altered in amplitude or frequency.	A human-induced alteration may not cause a change in the water's isohaline patterns of more than ± 10% of the natural variations.								
(A) Water Supply (ii) seafood processing	May not exceed 15°C.	Not applicable.								
(A) Water Supply (iii) industrial	May not exceed 25°C.	No amounts above natural conditions that can cause corrosion, scaling, or process problems.								
(B) Water Recreation (i) contact recreation	Not applicable.	Not applicable.								
(B) Water Recreation (ii) secondary recreation	Not applicable.	Not applicable.								
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life and Wildlife	Same as (2)(A)(i).	Maximum allowable variation above natural salinity: <table><tr><td>Natural Salinity*</td><td>Human-Induced Salinity*</td></tr><tr><td>00.0 to 03.5</td><td>1</td></tr><tr><td>Greater than 03.5 to 13.5</td><td>2</td></tr><tr><td>Greater than 13.5 to 35.0</td><td>4</td></tr></table> * parts per thousand	Natural Salinity*	Human-Induced Salinity*	00.0 to 03.5	1	Greater than 03.5 to 13.5	2	Greater than 13.5 to 35.0	4
Natural Salinity*	Human-Induced Salinity*									
00.0 to 03.5	1									
Greater than 03.5 to 13.5	2									
Greater than 13.5 to 35.0	4									
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (2)(A)(i).	Same as (2)(A)(i) or (2)(C), whichever is more stringent.								

(2) MARINE WATER USES	SEDIMENT	TOXICS AND OTHER DELETERIOUS ORGANIC AND INORGANIC SUBSTANCES
(A) Water Supply (i) aquaculture	No imposed loads that will interfere with established water supply treatment levels.	Same as (2)(C).
(A) Water Supply (ii) seafood processing	Below normally detectable amounts.	Individual substances may not exceed criteria in EPA, <i>Quality Criteria for Water</i> (See Note 5) as applicable to the substance.
(A) Water Supply (iii) industrial	Same as (2)(A)(i).	Substances that pose hazards to worker contact may not be present.
(B) Water Recreation (i) contact recreation	No measurable increase in concentration of settleable solids above natural conditions, as measured by the volumetric Imhoff cone method (See Note 15).	Same as (2)(A)(ii).
(B) Water Recreation (ii) secondary recreation	May not pose hazards to incidental human contact or cause interference with the use.	Substances that pose hazards to incidental human contact may not be present.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (2)(B)(i).	Individual substances may not exceed criteria in EPA, <i>Quality Criteria for Water</i> (See Note 5) or, if those criteria do not exist, may not exceed the Primary Maximum Contaminant Levels of the Alaska Drinking Water Standards (18 AAC 80). If those criteria are absent, or if the department finds that the criteria are not appropriate for sensitive resident Alaskan species, the department will, in its discretion, establish in regulation chronic and acute criteria to protect sensitive and biologically important life stages of resident Alaskan species, using methods approved by EPA or alternate methods approved by the department. There may be no concentrations of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, toxic effects on aquatic life, except as authorized by this chapter. Substances may not be present in concentrations that individually or in combination impart undesirable odor or taste to fish or other aquatic organisms, as determined by either bioassay or organoleptic tests (See Note 5).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Not applicable.	Same as (2)(C).

(2) MARINE WATER USES	COLOR (See Note 11)	PETROLEUM HYDROCARBONS, OILS AND GREASE
(A) Water Supply (i) aquaculture	May not exceed 50 color units or the natural condition, whichever is greater.	Total aqueous hydrocarbons (TAQH) in the water column may not exceed 15 $\mu\text{g/l}$ (See Note 8). Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 $\mu\text{g/l}$ (See Note 8). There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.
(A) Water Supply (ii) seafood processing	May not exceed 15 color units or the natural condition, whichever is greater.	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils. May not exceed concentrations that individually or in combination impart odor or taste as determined by organoleptic tests.
(A) Water Supply (iii) industrial	Not applicable.	May not make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	Same as (2)(A)(ii).	May not cause a film, sheen, or discoloration on the surface or floor of the waterbody or adjoining shorelines. Surface waters must be virtually free from floating oils.
(B) Water Recreation (ii) secondary recreation	Surface waters must be free of substances that produce objectionable color.	Same as (2)(B)(i).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Color or apparent color may not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life. For all waters without a seasonally established norm for aquatic life, color or apparent color may not exceed 50 color units or the natural condition, whichever is greater.	Same as (2)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (2)(C).	May not exceed concentrations that individually or in combination impart undesirable odor or taste to organisms as determined by bioassay or organoleptic tests.

(2) MARINE WATER USES	RADIOACTIVITY	TOTAL RESIDUAL CHLORINE
(A) Water Supply (i) aquaculture	May not exceed the concentrations specified in the Alaska Drinking Water Standards (18 AAC 80). Concentration factors for organisms involved may not exceed maximum permissible limits for specific radioisotopes and unidentified mixtures as established in 10 C.F.R. 20 (See Note 12) and National Bureau of Standards, Handbook 69 (See Note 13).	Concentrations may not exceed 2.0 $\mu\text{g/l}$ for salmonid fish, or 10.0 $\mu\text{g/l}$ for other organisms.
(A) Water Supply (ii) seafood processing	May not exceed the concentrations specified in the Alaska Drinking Water Standards (18 AAC 80) and may not exceed limits specified in 10 C.F.R. 20 (See Note 12) or National Bureau of Standards, Handbook 69 (See Note 13).	Not applicable.
(A) Water Supply (iii) industrial	Same as (2)(A)(ii).	Not applicable.
(B) Water Recreation (i) contact recreation	Same as (2)(A)(ii).	Not applicable.
(B) Water Recreation (ii) secondary recreation	Same as (2)(A)(ii).	Not applicable.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	Same as (2)(A)(i).	Same as (2)(A)(i).
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	Same as (2)(A)(i).	May not exceed 1 mg/l at any time.

(2) MARINE WATER USES	RESIDUES Floating Solids, Debris, Sludge, Deposits, Foam, Scum, or Other Residues
(A) Water Supply (i) aquaculture	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use. May not cause detrimental effects on established water supply treatment levels.
(A) Water Supply (ii) seafood processing	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
(A) Water Supply (iii) industrial	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use.
(B) Water Recreation (i) contact recreation	Same as (2)(A)(ii).
(B) Water Recreation (ii) secondary recreation	Same as (2)(A)(ii).
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, or cause acute or chronic problem levels as determined by bioassay or other appropriate methods. May not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
(D) Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life	May not make the water unfit or unsafe for the use; cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

Notes:

1. Wherever cited in this section, fecal coliform bacteria must be determined by the membrane filter technique or most probable number procedure according to *Standard Methods for the Examination of Water and Wastewater*, 18th edition, 1992 (see (c)(1) of this section) or in accordance with other standards approved by the department and the United States Environmental Protection Agency (EPA).
2. Wherever cited in this chapter, dissolved oxygen (DO) concentrations in interstitial waters of gravel beds will be measured using the technique found in *Variations in the Dissolved Oxygen Content of Intragravel Water in Four Spawning Streams of Southeastern Alaska*, Special Scientific Report - Fisheries No. 402, February 1962, by William J. McNeil, available from the U.S. Department of the Interior. See Note 16.
3. Wherever cited in this chapter, fine sediments must be sampled by the method described in *An Improved Technique for Freeze Sampling Streambed Sediments*, USDA Forest Service Research Note PNW-281, October 1976, by William J. Walkotten, available from the USDA Forest Service Pacific Northwest Forest and Range Experiment Station, P.O. Box 909, Juneau, AK 99802, or by the technique found in *Success of Pink Salmon Spawning Relative to Size of Spawning Bed Materials*, Special Scientific Report Fisheries No. 469, January 1964, by William J. McNeil and W.H. Ahnell, pages 1 through 3, available from the U.S. Fish and Wildlife Service. See Note 16.
4. Wherever cited in this chapter, percent accumulation of fine sediments will be measured by the technique found in the *Manual on Test Sieving Methods, Guidelines for Establishing Sieve Analysis Procedures*, STP 447A, 1972 edition, available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. See Note 16.
5. The term "EPA Quality Criteria for Water" includes Quality Criteria for Water, July 1976, U.S. Environmental Protection Agency, Washington, D.C. 20460, U.S. Government Printing Office: 1977 0-222-904, the Ambient Water Quality Criteria for the 64 toxic pollutants listed in the Federal Register, Vol. 45, No. 231, pg. 79318, November 1980, the Ambient Water Quality Criteria Document for 2, 3, 7, 8-tetrachlorodibenzodioxin (TCDD) listed in the Federal Register, Vol. 49, No. 32, pg. 5831, February 1984, and the final ambient water quality criteria documents listed in the Federal Register, Vol. 50, No. 145, pg. 30784, July 1985. These documents may be seen at the central office of the department or may be purchased through the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.
6. The Report of the Committee on Water Quality Criteria, Federal Water Pollution Control Administration, Washington, D.C., April 1, 1968, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. See Note 16.

7. Water Quality Criteria 1972, Environmental Studies Board of the National Academy of Sciences and the National Academy of Engineering, Washington, D.C., 1972, EPA-R3-73-033, March 1973, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20204 (Stock No. 5501-00520). See Note 16.

8. Total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAQH) must be determined using the following sampling procedures and the individual analyte and group method detection limits (MDLs) and performance standards:

a. For purposes of complying with this chapter, before sample collection, a quality assurance project plan that meets the following requirements shall be submitted for department approval:

(i) *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, EPA QAMS-005/80, December 29, 1980; and

(ii) guidelines in the department's *Guidance on Preparation of Laboratory Quality Assurance Plans*, dated February 14, 1991.

b. TAH and TAQH concentrations in marine and fresh waters must be determined from samples taken below the surface. Methods for collection of water samples must assure that the samples are free from hydrocarbon contamination from exogenous sources. Determination of TAH and TAQH in wastewater effluent must employ methods for sampling, preservation, transport, and storage approved by the department to minimize losses of hydrocarbons through volatilization and light and bacterial degradation. The quality of data must be determined through the data validation process specified in the EPA *Draft National Functional Guidelines for Organic Data Review*, revised, June 1991.

c. *Interim Guidelines and Specifications for Preparing QA Project Plans* and *Draft National Functional Guidelines for Organic Data Review* referred to in (a) and (b) of this note are available from the Office of Monitoring Systems and Quality Assurance, Office of Research and Development, United States Environmental Protection Agency, Washington, D.C. 20460; the department's quality assurance guidelines, referred to in (a) of this note, may be obtained from any regional office of the department.

d. MDLs for individual monoaromatic or polynuclear aromatic hydrocarbon (PAH) analytes must be determined using procedures described in Appendix B, 40 C.F.R. 136, as amended through November 29, 1994. A group MDL may not exceed that of the constituent analyte having the highest MDL. A group MDL typically is determined as the geometric mean of the MDLs of the constituent analytes, weighted according to the analyte's relative contribution to the group.

e. TAH and TAqH must be measured as follows:

(i) For measuring compliance against the 10 µg/liter TAH criterion, the following volatile monoaromatic hydrocarbon compounds (commonly called BETX), Group I, must be analyzed and the concentrations summed: benzene, ethylbenzene, toluene, and the xylene isomers; the individual MDLs and required minimum reporting limits for BETX compounds may not exceed 0.2 µg/liter for the listed compounds; precision must be within the range +/- 30 percent; and recovery must be within the range of 60 to 130 percent;

(ii) For measuring compliance against the 15 µg/liter TAqH criterion, except as required under (e)(iii) of this note, the following aromatic groups must be analyzed and their concentrations summed:

A. Group I -- Volatile monoaromatic hydrocarbons, including benzene, ethylbenzene, toluene, and the xylene isomers (BETX), as measured under (e)(i) of this note; and

B. Group II -- Polynuclear aromatic hydrocarbons (PAHs), including, at a minimum, the following compounds:

Naphthalene; 1-methylnaphthalene; 2-methylnaphthalene; 2,6-dimethylnaphthalene; 2,3,5-trimethylnaphthalene; other C-2 and C-3 naphthalenes (estimated by using response factors of isomers with available standards); dibenzothiophene; biphenyl; fluorene; phenanthrene; 1-methylphenanthrene; anthracene; fluoranthene; acenaphthene; pyrene; benzo-a-anthracene; acenaphthylene; chrysene; benzo-e-pyrene; benzo-a-pyrene; dibenzo-a,h-anthracene; benzo-b-fluoranthene; benzo-k-fluoranthene; indeno-123-cd-pyrene; dibenzo a,h-anthracene; and benzo-g,h,i-perylene;

(iii) Where petroleum source identification is a major objective of sampling, such as when related to an oil spill, or when the sum of Group I BETX concentrations and Group II PAH concentrations approaches the 15 µg/liter criterion for TAqH, the department will, in its discretion, require that some or all isomers of the following additional PAH alkyl homologues (Group III) be analyzed for determination against the TAqH criterion:

C-4 naphthalenes; C-1, C-2, and C-3 fluorenes; C-1, C-2, and C-3 dibenzothiophenes; C-1, C-2, and C-3 phenanthrenes/anthracenes; C-1 fluoranthenes/pyrenes; C-1, C-2, C-3, and C-4 chrysenes;

(iv) For a one-liter sample extraction, the MDL for Group II and Group III PAH compounds may not exceed 0.10 µg/liter for each analyte, unless alternative analyte-specific MDLs are conclusively justified in writing to, and approved by, the department; the required reporting or quantitation limits for the Group II and Group III compounds may not exceed 0.20 µg/liter; larger volume samples may be extracted to achieve the 0.10 and 0.20 µg/liter MDL and minimum reporting limits, respectively, for each analyte; if Group III PAHs are required to be analyzed, representative isomers within each identified analyte group (C-1 chrysene, C-2 chrysene, etc.) may be used to determine MDLs for the other members within that group; for Group III compounds that do not have standards, values may be estimated using response factors of the most similar standard.

f. Any approved and published chromatographic method or combination of methods that measures the listed compounds and meets the performance standards specified above, is acceptable for determination of TAH and TAqH. Performance standards equal to or exceeding those of Methods 602 and 610, 40 C.F.R. 136, Appendix A, as amended through November 29, 1994, must be met for those target BETX and PAH compounds listed in Methods 602 and 610. Modifications to other promulgated EPA Gas Chromatography/Mass Spectrometry (GC/MS) or High Pressure Liquid Chromatography (HPLC) methods for analysis of PAHs will, in the department's discretion, be permitted for PAHs if the performance standards and MDLs specified in Method 610 are met. For compounds in Group I, Group II, and Group III that are not listed in Methods 602 and 610, methods used must have standard recoveries for spikes of target analytes and surrogates within the range of 60 to 130 percent. The precision of laboratory and field replicate analyses for both surrogates and target analytes may not exceed +/- 30 percent. The number, name, and level of surrogate compounds used in the analytical protocol must be approved by the department. Laboratory-approved standard operating procedures used for measurement of TAH and TAqH must be submitted to the department for review before sample analysis. For measuring TAH, EPA Method 602 (purge and trap with the addition of xylenes) is recommended. Measurement of PAHs in dichloromethane or other approved concentrated extract using chromatography is acceptable. GC/MS is the preferred method and will, in the department's discretion, be required in confirming disputed analyte identification; Gas Chromatography/Flame Ionization Detection (GC/FID) is acceptable for many of the compounds in this note. The department will, in its discretion, approve on a case-by-case basis, spectroscopic screening methods that are demonstrated to provide comparable sensitivity to a GC/MS method.

g. The frequency of monitoring for TAH and TAqH is a function of sampling objectives related to point source compliance, petroleum source identification, or another purpose. Initial screening of effluents or receiving waters may result in targeting specific fractions with the greatest contribution to petroleum hydrocarbon concentrations. The department will specify compliance monitoring frequency and a process for screening and targeting specific fractions in permits, approvals, certifications, orders, or notices. Targeted groups for compliance monitoring using effluents may vary from those targeted for compliance monitoring using receiving waters, based on relative contributions to TAqH.

9. Repealed 1/4/95.

10. Repealed 1/4/95.

11. Color is as measured in color units on the platinum-cobalt scale according to *Standard Methods for the Examination of Water and Wastewater*, 18th edition, 1992 (see (c)(1) of this section).

12. Wherever cited in this chapter, 10 C.F.R. Part 20 means the Standards for Protection Against Radiation published in the Code of Federal Regulations, January 1, 1978. See Note 16.

13. Wherever cited in this chapter, National Bureau of Standards Handbook 69 means Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and Water for Occupational Exposure, U.S. Department of Commerce, National Bureau of Standards Handbook 69, June 5, 1959, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. See Note 16.

14. Wherever cited in this chapter, the National Shellfish Sanitation Program, Manual of Operations, Part I, means Sanitation of Shellfish Growing Areas, 1965 Revision, U.S. Department of Health, Education and Welfare, Public Health Service Publication No. 33 Part I, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. See Note 16.

15. Volumetric measurements of settleable solids must be determined according to the following procedure: fill an Imhoff cone to the one-liter mark with thoroughly mixed sample. Settle for 45 minutes; gently stir sides of cone with a rod or by spinning; settle 15 minutes longer, and record volume of settleable matter in the cone as milliliters per liter. If the settled matter contains pockets of liquid between large settled particles, estimate volume of these and subtract from volume of settled matter.

16. The cited document is on file in the lieutenant governor's office and may be seen at any department office.

(c) Water quality will be analyzed according to

(1) *Standard Methods for the Examination of Water and Wastewater*, 18th edition, 1992, published jointly by the American Public Health and American Water Works Associations, and the Water Environment Federation (publication office: American Public Health Association, 1015 15th Street NW, Washington, D.C. 20005);

(2) Methods for Chemical Analysis of Water and Wastes, March 1979, Technical Report No. EPA 600-4-79-020, Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH 45268 (available from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161, Order No. PB 297686);

(3) Guidelines Establishing Test Procedures for the Analysis of Pollutants; Final Rule and Interim Final Rule and Proposed Rule, Federal Register Part VIII, EPA, Friday, October 26, 1984, 40 C.F.R. Part 136, Vol. 49, No. 209;

(4) Guidelines Establishing Test Procedures for the Analysis of Pollutants; Final Rule and Interim Final Rule and Proposed Rule; Corrections, Federal Register Part VI, EPA, Friday, January 4, 1985, 40 C.F.R. Part 136, pages 690 through 697;

(5) Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, July 1982 Technical Report No. EPA 600 14-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268;

(6) methods cited in (b) of this section; or

(7) other methods of analysis approved by the department and EPA.

(d) In applying acute aquatic life criteria, a one-hour averaging period typically is used for ammonia and other fast-acting toxic substances; a 24-hour averaging period is used for all other toxic substances, unless otherwise specified by the department. (In effect before 7/28/59; am 5/24/70, Register 34; am 8/28/71, Register 39; am 10/22/72, Register 44; am 8/12/73, Register 47; am 2/2/79, Register 69; am 4/23/79, Register 70; am 9/19/79, Register 71; am 12/19/82, Register 84; am 6/23/85, Register 94; am 1/7/87, Register 100; am 1/4/95, Register 133)

Authority: AS 46.03.020
AS 46.03.050
AS 46.03.070
AS 46.03.080

Editor's note. Federally-promulgated water quality standards for the State of Alaska regarding toxic substances, including human health criteria and acute and chronic aquatic life criteria, are found at 40 C.F.R. 131.36 (1993).